

COAL AGE

The Only National Paper Devoted to Coal Mining and Coal Marketing

C. E. LESHER, Editor

Volume 21

NEW YORK, THURSDAY, JUNE 8, 1922

Number 23

Fair Prices

EXTRAORDINARY conditions warrant extraordinary procedure. Most extraordinary are the conditions faced by Secretary Hoover when he undertakes to hold in check coal prices, and the most blasé will concede that he has handled the situation in an extraordinary manner. Prices, rapidly climbing to panic heights, were steadied by Mr. Hoover's announcement of two weeks ago that at the request of the President he would seek to call a halt. It was expected that the operators would be asked to take control of the problem as theirs, and this they had promised to do. But Mr. Hoover finds that under our laws it is as improper for coal operators to agree to put the price down as it is to agree to put it up.

With marked courage and resourcefulness he has taken on himself the full responsibility for a schedule of maximum "fair" prices for bituminous coal. The announced prices are not "fixed" in any sense of the word, for, as Mr. Hoover has stated, he has not a shred of authority or of law for fixing prices or controlling distribution. These prices are simply his notion of what under all circumstances the operators in the several fields now producing coal are warranted in charging for their coal. Except as individuals meeting with the Secretary of Commerce no coal operator has been asked or allowed to agree to settle on any price for coal. Mr. Hoover takes full responsibility for the figures named, as a duty becoming his office.

Certainly no producer can complain that the prices are unfair to him. They represent practically the top of the market today. They are extremely liberal to the operator who is able to produce; they should encourage increased output and likewise, because they stabilize the market, should encourage buying.

No one will contend that the announced prices have a very close relation to costs. It was plainly stated by Mr. Hoover that the public is interested in dollars and not cents—in other words, this is no time to haggle over fine distinctions of costs and margins. The present is a temporary situation. Circumstances in no wise parallel those under which the Fuel Administration fixed prices. In short, it is the stoppage of the upward surge of prices at a reasonable level. To have gone on, ascending perhaps to \$5 or \$10, would have cost the consumers millions of dollars.

The action of Mr. Hoover was timely. Instead of waiting until it became necessary to call for a retreat, he stepped in at a time when it was much easier to obtain acquiescence from the operators. Consumers might take it better were the prices adopted a recession from the market and representing therefore more obviously the saving they actually will prove to be.

Will the plan work? There can be no assurance that it will. Everything depends on those who sell or who buy and sell coal. There is no law, the clever or crude

circumventing of which would, as in war time, stimulate imagination and incite cupidity.

Violation of the implied agreement between Secretary Hoover and a majority of the coal producers will be nothing less than betrayal of the best interests of the coal industry.

Where the Jobber Comes In

IT IS well that Secretary Hoover intends to follow up his conference with the producers of bituminous coal on matters of price with similar conferences with the jobbers and retail dealers. No well-informed individual any longer holds that the jobber is an excrescence on the coal trade. His services are just as essential as those of any other part of the industry. Because the jobber—the free-lance trader as distinguished from the regularly connected sales agent—lives by guessing on the market he is the one whose activities the more frequently attract attention when prices are high. His part in distribution is important, however, and he doubtless has felt slighted that no recognition was given him in the prices announced in Washington last week. He might be expected to have become calloused in that respect in view of the treatment he was accorded during the early days of the war period. Or he might have known that his turn would come.

The prices announced by Mr. Hoover last week are mine prices and the producer is going to hold out for the entire amount, despite the assertion that they are supposed to include a fair share for selling. The jobber who tries to buy coal will find that he is a buyer, and to the buyer the price is \$3.50. He must look elsewhere for his commission. If the Hoover prices are fair prices for the producer, then the jobber who buys for the account of a consumer, in hand or in the bush, should, it seems to us, be entitled to add his commission. This was 25c. according to the Lane-Peabody schedule and quite generally 15c. under the Garfield régime. If our war-time journey into price regulation taught anything, it is that there is no other way to take care of the wholesaler.

Time to Break the Anthracite Deadlock

IT WILL soon be three months since the anthracite operators and miners began to negotiate a new wage scale. So far as the public has been let in on the proceedings the net result has been that the miners have informed the operators that they are striking for a 20-per cent wage increase and the operators have said to the miners that they can have no such thing; that they must in fact take a 21-per cent wage decrease. There is not the slightest indication that either side has any intention of conceding an inch.

By the end of this month the hard-coal mines will have been idle a quarter of a year. Since 1916 it has

required almost full-time operation of these mines to meet the needs of the householders who depend on this kind of fuel. Therefore there is certain to be a shortage of anthracite this winter. The outlaw strike in the summer of 1920 that affected but a portion of the miners for less than a month resulted in a shortage sufficient to produce \$15 hard coal at the mine in ensuing months. True, very few tons were sold by operators at that figure, but those who held up the buyer two years ago are still in business. Sufficient independent high-cost tonnage will be put on the market this winter to create a scandal and lend color to the charge that the whole industry is profiteering.

The anthracite operators have a public necessity in trust. They have spent nearly three months in fruitless negotiations with the miners. There is no non-union production; no substitute on which the public may rely. Work in the anthracite mines must very soon be resumed. Strategy, politics, reasoning, argument, have all had their opportunity and have availed nothing. The public wants hard coal and it wants cheaper coal. The sliver of from a quarter to less than half a dollar shaved off by the reductions in freight rates will not satisfy. The public thinks in terms of dollars and wants at the very least a dollar off the price of its coal. The 20-per cent reduction in wages urged by the operators should take a dollar off the price.

It is suspected that John Lewis and the international officers, having their eyes on the larger stake in the bituminous-coal situation, are holding up the settlement in the hard-coal region. Were the hard-coal men to get back to work, and particularly at a reduced wage, as eventually they most certainly will, the effect on the morale of the striking soft-coal miner might be far from what Mr. Lewis would like.

There is a suspicion, too, that some at least of the operators have been and are in no hurry to open their mines in view of the general slackness in the public's buying last winter and this summer—in other words that a partial suspension of mining would have been inevitable this summer from lack of market, even if there had been no strike. This hand can be overplayed. July 1 is about the latest date at which operations may be resumed and really serious trouble be avoided next winter.

The deadlock can be broken, and very quickly. Were either party to appeal to President Harding, stating that there is no solution save by arbitration, the other party must most certainly accede. The miners are openly opposed to arbitration. Should they break off negotiations, and perhaps by the time this is published they will have done so, the operators should act quickly in the direction of Washington.

Peace Enough and No More

"THERE must be no violence," was the union order with which the strike commenced. No one is destroying idle mines, no one assails men who do not meditate going to work, whether union or non-union. But "scab mines" and "scab workmen" in strike districts are being attacked just often enough and regularly enough to keep those who would work or would hire men to work duly afraid of what might happen to them and their properties. It is remarkable how effectively the sparse violence used prevents mine operation.

In Europe it is customary to put in troops and police

before violence is resorted to. Here the plan is to wait till the mine is wrecked, the men terrified, driven out or killed. A previous administration, when the situation became serious in Colorado, sent in troops to preserve the *status quo*. What mines were closed were to remain closed; only men who were being employed were allowed to work; what victories intimidation and crime had won were to be respected by the federal government. It was a travesty of justice—this pious respect for the *status quo*.

One questions how the cities would prosper if they provided no police force till a bank was bombed or a mob looted a grocery or destroyed a factory. Conditions at the mines are unbelievable. What order there is shows that at most mines there are more good than bad miners, for the "preservation of the peace" till peace is shot to smithereens by armed rebellion or dynamite is ludicrously inefficient, except indeed where the company induces the sheriff of the county to hire armed guards at the company's expense.

Heavy Cost of the Open Torch

WHO can summarize the loss resulting from the cap lamp with an open flame and who shall estimate the losses of the future from this same cause? Is it a mere blind guess that places on the miner's open flame the onus of many of the mine conflagrations of recent years?

Our mines are getting further and further from the outcrop. They are becoming drier and yet more dry as the years pass by. With greater depth comes increased heat and less surface water. With better drainage comes greater dryness. The dangers of greater depth are found not alone in the open torch, for an increase in depth also makes spontaneous combustion more frequent and more active. This is because weight and crushing make the coal liable to burn spontaneously, and coal unoxidized or less oxidized than that nearer the surface is likely to ignite from causes not attributable to flame. Electrification also has its dangers. Yet despite all these various causes of ignition the open torch is often blamed, and with reason.

Among the accidents caused by an open flame may be numbered Delagua, Cherry, perhaps also Sunnyside and Red Ash. It seems almost certain that the Hollenback fire came from an open torch, and the Baltimore tunnel flare-up quite possibly had a like origin. For this reason it is to be hoped that the electric portable lamp will become more effulgent and its use more general. It cannot start a fire, whereas the open flame can and often does.

One of the big economies of the future probably will be the electric lamp. It is being given a greater candle power, and in the future it may be made less heavy. It probably would have been far more generally adopted had not the ownership of the open torch by the miner caused him to oppose the introduction of a lamp for which he would have to pay a power and maintenance charge. Only the fact that the miner has his own lamp, and supplies the fuel for it, has delayed the introduction of the electric lamp.

If the union would permit in every case, as it has in some, a slightly lowered rate for mining where the mine worker saved the lighting charge formerly borne by him and the operator supplied electric lamps, the electric lamp would speedily come to the front.



Plastic Fuel Can Be Made of Low-Grade Coal and Oil And Can Be Coked Even if Non-Coking Coal Is Used

With Fine Grinding Almost All But Inherent Ash Is Removed
by Trent Process—Ash May Be Reduced to One Per Cent—
Amalgam Produced Twice as Much Gas as Ingredients Separately

BY GEORGE H. DACY
Washington, D. C.

AFTER much experimentation, Walter E. Trent, a metallurgist of Washington, D. C., has developed a process for producing a satisfactory and economical plastic fuel from low-grade and waste products such as impure lignite, anthracite culm, the waste coal dumps around bituminous mines and municipal ashes. This process removes the coal ash and prepares a fuel that has been termed with some propriety an oil amalgam.

Experiments on this process began during the world war, when, at the instance of the War Department, facilities were provided by the U. S. Bureau of Stand-

ards for the making of tests to ascertain how the ash which slags and interferes with the combustion of coal could be removed from the fuel when in powdered form.

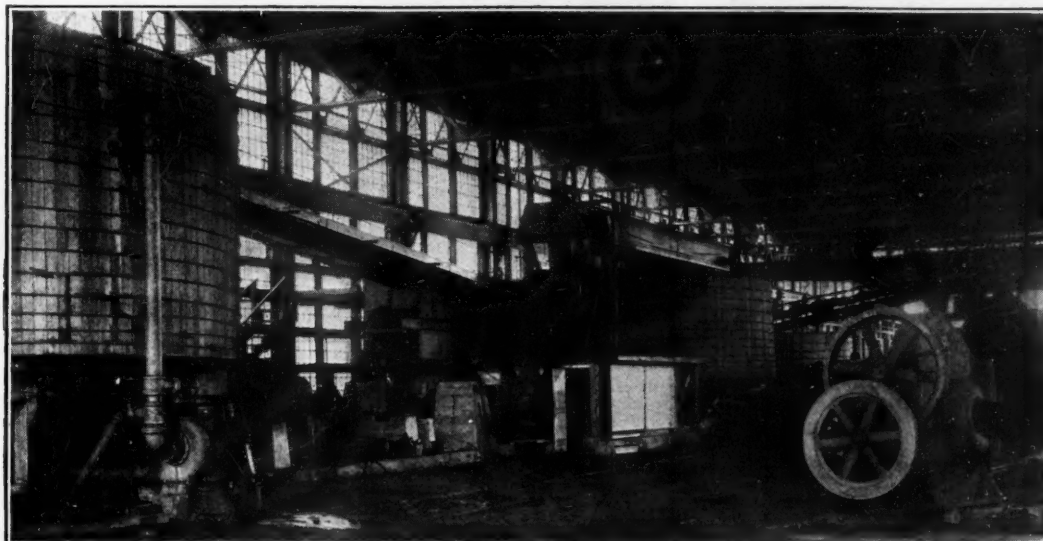
After peace was concluded the investigations were continued, with the ultimate result that the Trent process of agitating or beating together powdered coal, water and oil to form a plastic fuel was devised. This fuel has been investigated and a report made on it by the U. S. Bureau of Mines.

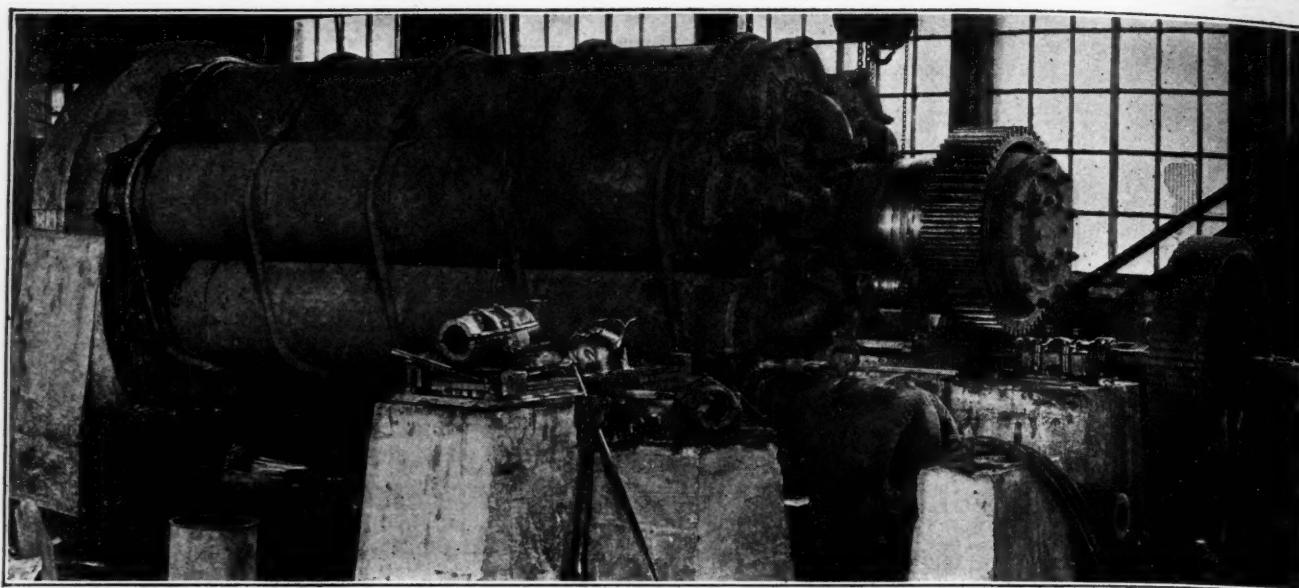
Though, up to the present time, the work has been largely experimental the process exhibits great possibilities in the solution of troublesome problems in fuel and gas manufacture. The officials of the U. S. Bureau of Mines declare that already a half dozen ways have been discovered in which the process might be applied

NOTE—The frontispiece shows a stockpile of amalgam at the dock at Alexandria, Va., ready for shipment to consumers of the product.

General View of Mill

Showing amalgamator screen and ash tanks. The coal is treated with 30 or 40 per cent as much oil as clean coal substance. This oil, remaining with the coal, is available for either combustion or distillation and so in no sense is lost. The oils used are of inferior grade.





BALANCED PULVERIZER OF ROD-MILL TYPE

This mill, which grinds the coal to a fine powder, carries 30,000 lb. of crushing rods which roll on the coal as the nest of tubes revolves.

to the solution of the intricate technical problems of many industries.

To quote Mr. Trent's own language: "Wet, pulverized coal suspended in water, when treated with about 30 or 40 per cent as much oil as there is coal substance present, agglomerates into a pasty, plastic mass in which all the coal ingredients and the oils are intimately united. The ash, which is separated mechanically from the coal particles as a result of fine grinding, does not enter into the coal-oil mixture but remains suspended in the water and can be readily separated from the fuel paste. A purified fuel material results.

"This is practically free from objectionable moisture

and is extremely low in ash content. The excess water contained in the plastic fuel is removed by mechanical manipulation similar to that which frees water from butter. This is done by agitating the coal, oil and water with paddle blades rotating at a speed of 1,000 r.p.m.

"By these means the ash-content can be reduced to as low as 1 per cent of the treated fuel although sometimes it runs around 2 to 3 per cent and under certain conditions is as high as 6 to 8 per cent. The quantity of ash depends on the fineness of grinding and the character of the ash itself. All the ash which is inherent in the coal or which is not mechanically sepa-

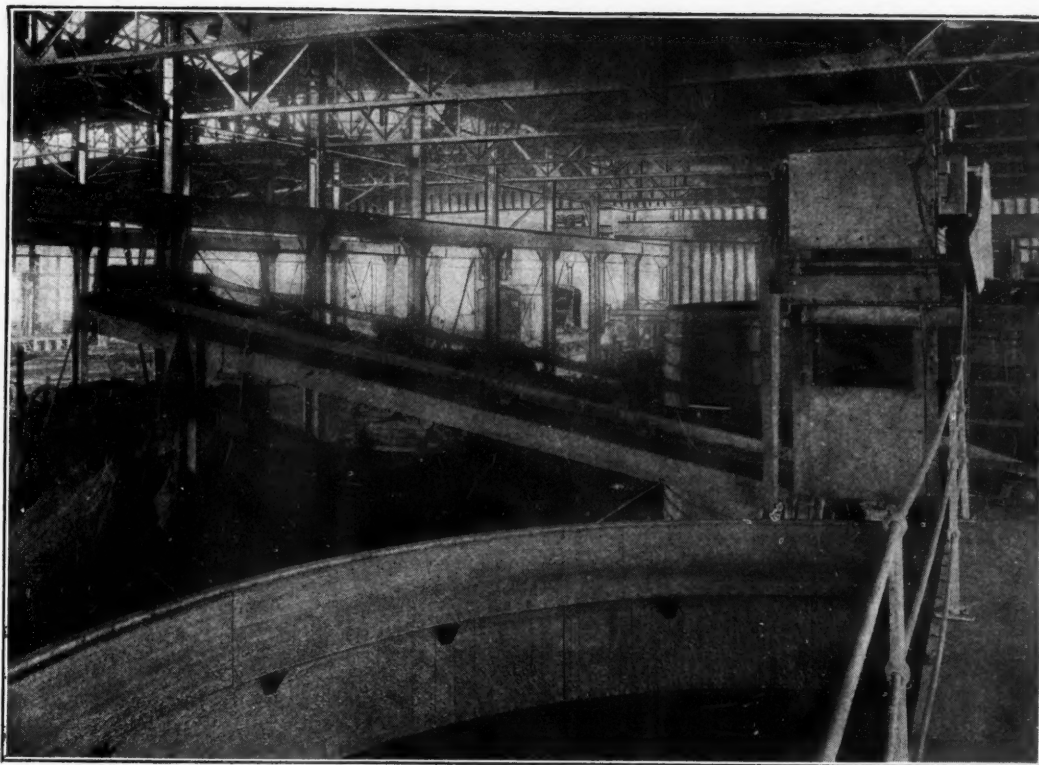


Amalgamator and Screen

Where coal, oil and water are mixed. When the mixture has been allowed to settle the coal and oil remain as globules in the water, forming the marketable product. The slaty particles fall to the bottom, leaving the amalgam with only the impurities inherent in the coal and oil, which impurities are, of course, comparatively insignificant. The cleanness of the product depends on the fineness of the grinding and the inherent freedom from ash of the original vegetable material from which the coal is formed. The proportion of ash may fall as low as 1 per cent.

Amalgam Discharge Belt

Note the pile of amalgam on the floor of the building. The plant is designed to handle 1,000 tons of raw coal per day and to test coals to ascertain their availability for the manufacture of amalgam. Coals, such as lignite and culm, containing 30 to 40 per cent ash have been treated by this process. The amalgam may be burned either as a liquid fuel, being sprayed into the furnace by special burners onto a grate for final combustion, or as a solid fuel, being fed onto a mechanical stoker.



rated from the carbon particles remains with the fuel substance."

An unusual feature of this process is that it will treat with efficiency both coal of low-ash content and low-grade fuels, such as lignite and anthracite culm, containing from 30 to 40 per cent of ash. Both give satisfactory amalgams of coal and oil. Such amalgams can be used as liquid fuels and be blown into the furnace through special burners, the preliminary combustion occurring while the fuel is in suspension and the final combustion being effected on the grate. The amalgams can be burned also directly by means of one of many types of stoking equipment. At present the amalgams are being made and sold on a commercial scale in a plant operated at Alexandria, Va., designed to handle 1,000 tons of raw coal per day. At this plant not only is amalgam made for commerce but all types and varieties of coals are being tested in order to ascertain their availability for use in the production of improved amalgams.

CHEAPEST GRADE OF OIL AS EFFICIENT AS BEST ...

A great variety of oils can be employed successfully in the commercial production of plastic fuel. Experimental and practical results, however, show that gasoline, kerosene, benzol and other high-priced oils are no more efficient or satisfactory than the crudest and cheapest of petroleum products. Any oil or organic liquid may be used which will not mix with water and which is not of excessive viscosity.

In many instances oil emulsions which for other uses were almost valueless have been utilized successfully. The indications are that the majority of the waste liquid fuels can be combined in this process with waste solid fuels to make commercial amalgams valuable for heat generation or for the manufacture of producer gas. The amalgams may be handled in several different ways. They can be shoveled like coal or they may be forced through pipes by pressure. If desired they can be stored under water.

This process is particularly efficient because in it the fuel is ground wet. Furthermore, the fact that the ash content can be measurably controlled makes available many types of coal that were practically valueless prior to the inception of the new process. If an oil is employed which distills at a lower temperature than coal, powdered fuel may be reclaimed from the amalgam and the oil may be used again. On the other hand, if a heavy oil is used and the amalgam distilled to a coking temperature, a satisfactory coke product may be recovered despite the fact that the original coal may have possessed no coking qualities. The possibilities of this process solely in the way of coking the otherwise non-coking varieties of coal are unquestionably large. In case the original distillation is continued only to the point where a heavy pitch results, the mass may be used for briquet making. It is believed that in this way coal briquets may be made and sold at much lower prices than those which now prevail.

Tests of government experts have demonstrated that a greater quantity and a better quality of distillates such as tar, coke and the like can be made from powdered coal and oil in mixture than can be obtained from these same materials separately. Graphite ore can be separated readily from the non-metallic minerals occurring with it in the ore deposit and coke can also be separated from flue dust by the same means. Hitherto, such separations have been complex and baffling riddles. Even the clean coal contained in anthracite sludge will make a satisfactory amalgam if sufficient oil is added. This process is highly efficacious also in the removal of excess sulphur and combinations of iron and sulphur from coal, particularly anthracite.

In the government investigations of this process approximately 0.3 lb. of oil was used to every pound of dry, clean coal. Where the coal is pulverized to a fineness such that it will pass readily through a 200-mesh screen a mixture of 62 gal. of light fuel oil to 450 lb. of coal will produce an amalgam in granules about $\frac{1}{8}$ in. in diameter. Where more finely ground coal is

used, it is sometimes necessary to employ about 0.4 lb. of oil per pound of coal.

Generally it is preferable to use as small a quantity of oil as possible, for the amalgam can be washed more completely if its granules are small. Furthermore, under such treatment the resultant cleaned coal contains less ash. The quantity of oil retained in the refuse rarely if ever exceeds 1 per cent of the total quantity used and frequently is so small as to be entirely negligible. Where the heavier petroleum oils are used the evaporation losses are so small as to be of little consequence, but are quite appreciable where gasoline or benzol are employed. However, it is not expected that these latter materials will be used in any commercial application of the process.

Some of the amalgams of heavy petroleum oils and finely pulverized coal produce a denser grade of coke than can be obtained directly from the coal alone. Even anthracite when properly treated with the oil will yield a good grade of coke. Thus this process may be made a means of efficiently using low-grade asphaltic oils and of concurrently producing coke—useful as a domestic fuel—from inferior non-coking coals.

MORE COKE, GAS AND HEAT FROM AMALGAM

When these amalgams and grades of oil and coal similar to those used in making them were tested at the Bureau of Mines' laboratories it was found that the residue from the amalgams was of fair quality and 18 per cent greater in quantity than those obtained from the separate ingredients, which when carbonized did not form suitable coke. The amalgam yielded over twice as much gas as the coal and oil distilled separately and the heating value of this gas was 5 per cent greater.

Mr. Trent is now busy perfecting a commercial method for making a new variety of cheap and satisfactory coke that may be used for domestic and industrial purposes. Patents are now being filed on this new process, which reduces the cost of coke manufacture one-half and lowers the total investment to one-fifth of the outlay necessary where production is attempted under the ordinary methods of manufacture. In this new process the amalgams are placed in huge caldrons or pots and after vertical holes have been bored through them their containers are placed directly over gas burners which initially are operated at low temperatures in order to drive off the oils and other volatile products. After this has been done the temperature is increased until finally the amalgams are converted into coke. By midsummer a large commercial plant for the production of coke from such amalgams, located in northern Virginia near Washington, will be in active operation.

TESTS RECENTLY WERE MADE at the Pittsburgh (Pa.) experiment station of the U. S. Bureau of Mines of the explosibility of coal dusts from the Cassidy mine at Cassidy, Vancouver Island, B. C. The tests were made in order to compare the explosibility of these dusts with Pittsburgh coal dust.

TWO SERIES OF STUDIES have been undertaken at Pittsburgh, Pa., by the U. S. Bureau of Mines in connection with electrical shotfiring methods in mines. The first problem is the relative danger of firing shots with iron and copper "leg" electric detonators, which has a possible bearing on the mine fires reported in the Utah field. The second problem is the cause of mis-fires in the firing of a large number of series shots by push-down type blasting machines in places where the leakage current through the earth is excessive.

Central Power Station Fired with Peat

By G. T. ZIMMER
London, England

PEAT as a fuel for power-house boilers has not only been much discussed in Germany but has actually been tried. The peat deposits of Germany are estimated to be about ten billion tons, the usable half of which would be sufficient to provide fuel for the complete light and power needs of Germany for 150 years. Before the war, peat at 5,760 B.t.u. and at a cost of 95c. per ton, could compete with coal at \$2.85 and lignite at 71c. per ton.

The power plant of Wiesmoor, in Bavaria, was the first to burn air-dried peat, which was gathered in the immediate vicinity. This plant has a maximum capacity of 7,000 kw. and during the winter of 1917-18 it generated about 15,000,000 kw.-hr. with a peat consumption of about 23,500 tons, in addition to about 11,900 tons of coal.

Possible sites for future peat-burning central power stations are: Zehlaubrich, in eastern Prussia, with a peat deposit sufficient for forty-five years, generating four hundred million kilowatt-hours per annum. This would be sufficient for the needs of the whole of eastern Prussia.

A further station has been contemplated for Leba Moor, in Pomerania, with a capacity of thirty billion kilowatt-hours; and another at Friesland, of twelve billion kilowatt-hours. A smaller installation in the Havelland, for the electrification of the Berlin Ry., also is under consideration. In all there are seven proposals for the erection of central power stations in close proximity to peat deposits. In each of these peat will be used as fuel either alone or with coal.

Stowing Slack in Gob of Lancashire Mines

A QUESTION raised by Stephen Walsh in the British House of Commons reveals the difficulty in disposing of slack in British mines and the waste of good coal which takes place in consequence. About Christmas, 1921, the Parr Colliery in Lancashire, unable to dispose of its finer coal, ordered that the slack made in some of its workings be stowed, the delay in placing slack making it possible to work only two or three days a week. By leaving a certain percentage of slack underground the running time has been raised to four or five days. The coal is either screened by hand riddles, or screens, 20½ in. in diameter with a ¾-in. mesh or loaded with forks.

Question was raised as to the safety of the practice. A divisional inspector who visited the mine declared the work unobjectionable, as it did not put any more dust into the air and onto the main roadways than was suspended in the operation of coal-cutting machinery with the loading thereafter. It also was questioned whether the coal thus stored might not ignite spontaneously, as the Ravenhead Main Delph had been troubled at times by such combustion. It was said, however, that no instance of spontaneous combustion had occurred there or in any other seam of the Parr Colliery for thirty years. When fine slack is loaded onto cars it tends to be blown off and it keeps the roads dusty. With only coarse coal on the cars this danger is obviated. It may be noted that this mine has been rendered less susceptible to a dust explosion by the use of stone dust.

What Precautions Should Be Taken to Keep the Control Devices of Mine Locomotives in Good Condition—I

Three Points to Be Noted as to Condition of Trolley Pole—Lubricate Contact Fingers with Vaseline, but Not in Excess—Wood Drum Cleaned and Shellacked—Smooth All Pitted Fingers and Contacts

BY H. H. JOHNSTON
East Pittsburgh, Pa.

UNDER the head of control equipment for mine locomotives is included all devices for governing the electrical circuits from the trolley wire to the rail. It usually embraces trolley, controller, fuse boxes, circuit breakers, transfer switches, headlight equipment, grid resistors and in fact all electrical devices except the motors themselves. Each of these contains a wide range of separate devices needing careful attention. For example, the trolley includes mainly the wheel and its bushings, the use of which must be watched closely, yet the trolley pole, although it need not be frequently inspected, must be watched and its condition occasionally noted, for during the day's work the wood may be broken or split. The tension of the trolley or the pressure of the wheel against the wire should be noted, and the tension spring in the trolley socket adjusted if necessary. The socket itself should be kept lubricated, so that the pole may swing freely, thus allowing the wheel to follow the wire throughout the limits in which it may be satisfactorily operated.

The controller has many intricate parts that need attention from time to time. These consist mainly of the drum contacts and fingers, which are subject both to mechanical and electrical wear. The controller-finger tensions should be checked and adjusted to limit the drop of the fingers when leaving the drum contacts, also to prevent the fingers from "stutting" when approaching these contacts. Contacts and fingers also "pit" from time to time. This pitting may be corrected by dressing them with a file, as this action takes place from day to day. This procedure will often eliminate much trouble later that may be experienced if the pitting be allowed to continue untouched.

PROPER PRESSURE FOR CONTROLLER FINGERS

Controller fingers are designed to provide the correct contact pressure, and it is important that in service the recommended pressure shall be maintained as closely as possible. The pressure between fingers and drum contacts and the current-carrying capacity of the joint thus made will depend largely upon the metal in both the finger tips and contacts. The usual practice is to use copper for both, particularly where high current-carrying capacity is desired. The usual pressures recommended for copper fingers on copper contacts for maximum capacity are: $\frac{1}{4}$ -in. fingers, 2 lb.; $\frac{1}{2}$ -in. fingers, 4 lb.; $\frac{3}{4}$ -in. fingers, 5 lb.; 1-in. fingers, 6 lb.; $\frac{1}{2}$ -in. fingers, 7 lb., and 1-in. fingers, 8 lb.

With these pressures, which it will be noted equal 8 lb. per inch of finger width, each of the finger sizes will have recommended current-carrying capacities that will vary for arcing and non-arcing duty, the arcing duty being that secured when the arc is blown out by the action of a magnet. For example, a $\frac{1}{4}$ -in. finger

for arcing duty, with blowout, may have a rating of 50 amp., whereas for non-arcing duty and continuous service it probably would be rated at 65 to 75 amp. Fingers for arcing duty are used at the main drum of the controllers, whereas those of the non-arcing type are used on the reverse and series-and-parallel drum. Fingers in arcing duty are subject to heat and burning when the circuits are broken between the drum and finger tips. These fingers require more attention than those of the reverse and series-and-parallel drum.

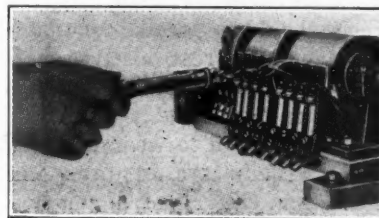
In most up-to-date controllers used on mine locomotives with arcing duty the main-drum contact tips are designed so as to be removable. This makes it possible to renew these parts when badly burned or worn, without putting in an entire drum segment. By such renewals maintenance is reduced to a minimum.

If the drum contacts are not lubricated at the point where the fingers slide over them, or if they receive little regular attention, the fingers and contacts wear away more rapidly than they do when these parts are properly lubricated. The lubricant employed must be a heavy grease, such as vaseline, that will cling to the drum contacts for a reasonable length of time. Too much of this material often is applied and this has a bad effect upon other parts of the controller, particularly on the insulation at the drum and the arc barriers.

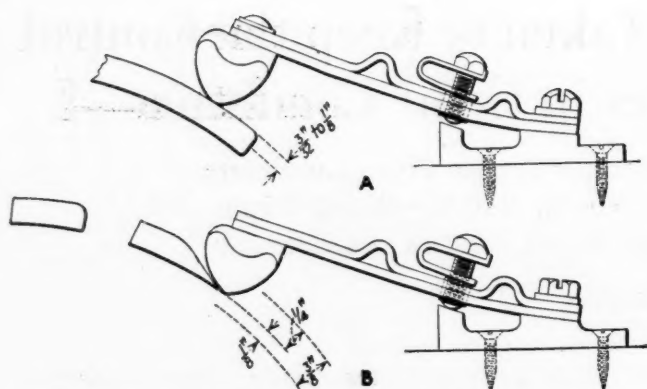
Only a small quantity of grease is required for each contact and by rubbing it onto the contacts with a clean cloth or piece of waste so as to apply only a thin layer, excellent results can be obtained. By operating the controller drum several times the lubricant will be evenly distributed over the surface, after which any excess can be cleaned from the fingers and ends of the contacts. Excess lubricant gathers dust and other foreign matter and is as bad as, if not worse than, none at all.

Controller arc barriers are subjected to the intense heat of arcs and the throwing of molten copper from fingers and contacts. Fine copper thus will be deposited on the arc barriers. At regular inspections these parts should be cleaned to maintain the insulation necessary, the deposited copper and all other foreign matter being removed.

Almost all controllers used on mine locomotives of present-day and older types are provided with a wooden



TESTING CONTACTOR PRESSURE
Each contactor is separately pulled out by a spring balance and the resistance observed.



FINGER SPRING WITH STOP TO PREVENT STUBBING

A stop is provided so that the contact finger cannot drop excessively, for when it does, it tends to stub and break the finger spring.

drum upon which the reverse contacts are held by means of screws. The wood should be kept clean, and at every overhaul period or during heavy inspections these drums should be inspected thoroughly and resurfaced with shellac or non-conducting paint. Improper finger pressure or bad contact due to unclean or pitted surfaces causes excessive heating, which sometimes chars the wood little by little. This will undoubtedly lead to much trouble, sometimes causing grounding of the circuits and destructive flashes.

Sometimes in repairing control drums the screws for holding the contacts to the drum are placed in a position different from that originally intended. Care should be taken to avoid this, but when it is done the screws should be located so that the fingers in making contact will not rest on or over the screw heads, which usually are countersunk so that the contacts will have to wear down considerably or as far as the screws before the fingers begin to wear in passing over them. These screws usually are of brass, consequently they are harder than the copper finger tips.

In making a jumper connection between contacts on drums a strap is always preferable to a cable. Such a strap or jumper should be permanently attached by sweating and screwing in place. Attempts never should be made to connect a jumper by merely placing its ends under the drum contacts, depending on the pressure of these parts to hold them together. Neither should screws only be employed to connect jumpers to the contacts without sweating. Where the wear is not great, it is often desirable to combine the jumper with its contacts, cutting them to shape from a single piece of copper.

In measuring finger tension a handy equipment consists of a U-shaped tool or stirrup. This is so constructed as to go over the end of the contact finger, which may be of any size up to 1 in. in width. After putting this in place and attaching a small spring scale, the finger-spring tension is measured by pulling in a direction radial to the drum. Such a device can be quickly used and changed from one finger to another. It also is a highly accurate means for checking tensions as well as for aiding in good maintenance.

The finger drop and pressure of contact bear a close relation to each other. A finger having too high a pressure will drop, when leaving a contact, enough to cause stubbing. This not infrequently results in breakage of finger springs. A stop is sometimes provided in controller-finger mechanisms to prevent the fingers dropping past a fixed point. This reduces the stubbing

and breakage. The drop from the contacts will vary from $\frac{3}{8}$ in. to $\frac{1}{2}$ in. (See illustration.) Usually this will be ample, and when a finger is on a contact it will not rest on the stop.

In maintaining controllers it is important that they be subject to frequent inspection, that records be kept of renewals, that the drum contacts be lubricated to prevent excessive wear; that insulating parts be kept clean, that moisture be excluded so as to protect the insulation; that the bearings be maintained to prevent loose drums, eccentricity, unevenness in the pressure of contacts and stubbing of fingers; that the contact pressure be kept up to standard; that the fingers be prevented from dropping excessively; that arcing tips be kept in condition (that is, clean and smooth), that they be renewed before they are allowed to burn the main contacts; that arc barriers be kept clean and free from such accretions of copper, smoke and grease as may fall from the drum contacts; that the wiring of the controller be maintained in good condition and free from dust, oil, copper and other foreign material, and that the controllers be blown out with clean, dry, compressed air, wherever this is available.

Belts Badly Repaired Soon Break Again

BY W. F. SCHAPHORST

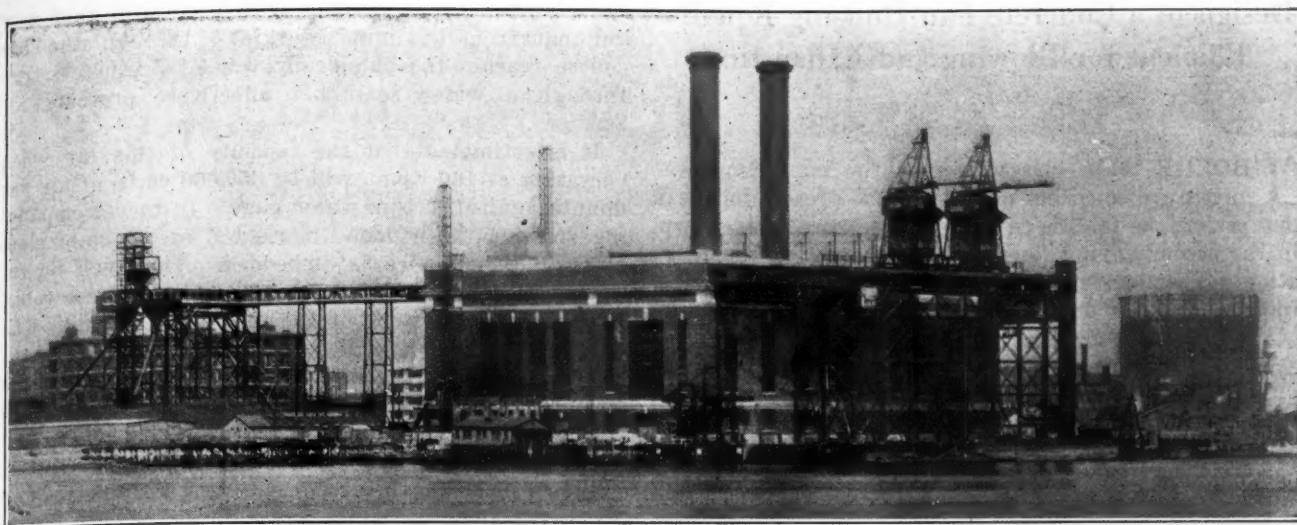
NOT long ago I was called upon to inspect an engine that the owner wished to dispose of because it "gave him too much belt trouble." He admitted that the engine itself was perfectly satisfactory. He could find no fault with it as far as its operation was concerned, but, he said, "It breaks the belt as fast as I can fix it. I spend most of my time fixing the belt."

Of all the belts I have ever laid eyes on I never saw the equal to this one. I firmly believe that it is not only the "most patched belt in the world" but that it is the "most poorly patched belt in the world." The word "repaired" can hardly be used because it is too dignified a term in this case.

Originally this was a double leather belt. Whenever it broke, the owner would simply take a piece of belting of the same width, lay it over the break, drive some rivets through, clinch them, and let it go at that.

Of course, such a joint wouldn't hold long. Another splice would then be riveted on top of the first, the owner doubtless thinking that two splices should be twice as strong as one. And when that, again, would break, the owner "simply couldn't understand it." He decided that he would have to sell the engine and install a motor.

Never before has it been brought to my attention so forcibly that whenever a belt needs repairing it pays to do the job right in the first place. In this instance if the first repair had been properly made it is quite possible that up to the present time there would have been no need for a second. The joint in a leather belt that has been properly scarfed and cemented is just as strong as the original belt itself. Leather-laced joints, of course, are never as strong as the solid leather, but if in the above case the owner had even laced his belt, instead of riveting it in the unworkmanlike manner described, he probably would have had much less trouble. Wire-laced joints are stronger than those laced with leather and often possess an efficiency of 85 to 90 per cent. A wire-laced joint could have been used in the belt described without serious difficulty and I believe such a joint would have held.



UNITED ELECTRIC LIGHT & POWER CO. PLANT IN THE HELL GATE SECTION OF THE BRONX, NEW YORK CITY

At the front of the boiler house on the edge of the East River are two grab-bucket towers for the unloading of coal, feeding to a cable tramway which delivers coal either to the boiler bunkers or to the storage ground in the rear, where also coal can be received by rail. About 100,000 tons of coal always will be kept in store.

First of New York's Central Plants to Use Sea-Borne Coal; To Store 100,000 Tons*

THE new Hell Gate power station of the United Electric Light & Power Co., illustrated herewith, possesses certain features not found in the general run of such plants. Chief among these are the provisions made for fuel supply and storage.

As may be seen from the accompanying map, this plant, which will have an ultimate capacity of 300,000 kw., is located at the entrance of Long Island Sound, where an abundance of condenser water may be readily obtained. It is only a short distance from the center of the present electrical load of New York City, and this distance probably will decrease somewhat during the next few years. Four turbines with an aggregate capacity of 150,000 kw. now are in operation, using steam at 250-lb. pressure and 200 deg. F. of superheat.

Fuel may be received from two separate sources and enough coal—about 100,000 tons—will be kept in storage to supply the plant for four weeks' operation if all supplies are cut off. Normally fuel will be received in 10,000-ton ocean-going barges, from which it will be unloaded by means of grab-buckets operating from towers and fed to a cable tramway, by which it will be delivered either to the boiler bunkers or to storage. It will be reclaimed from storage by a dragline

scraper. Coal may be received also by rail, be dumped and placed either in storage or in the bunkers by the same means as have been mentioned, except that a locomotive crane is employed in place of the coal towers.

This is the first central station in the metropolitan district to be equipped for receiving fuel direct from deep-sea vessels. The facilities provided will permit this plant to receive fuel normally from such ports as Hampton Roads, but, should the necessity arise, it might be imported from England or elsewhere with equal ease. Its rail connections afford a further safeguard against shutdown.

Timber Preservation Grows in Importance

INCREASE in demand for permanent timber structures is shown in a recent report of the Service Bureau of the American Wood Preservers' Association. Over 2,400,000,000 board feet of timber for various purposes were pressure-treated in 1921 by the 122 wood-preserving plants in operation throughout the United States, thereby surpassing the 1920 record by nearly 17 per cent. Approximately equal amounts were treated with coal-tar creosote and with zinc chloride.

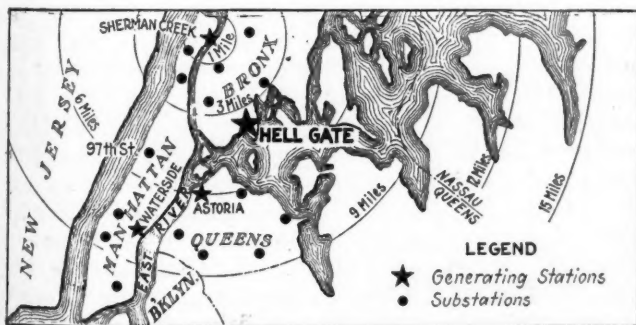
To treat this wood 51,375,360 lb. of zinc chloride, with an absorption of one-half pound per cubic foot, and 79,384,326 gal. of creosote, with an absorption of 5 to over 20 lb. per cubic foot, were required.

Ease of handling and the permanance of well-treated wood at low cost are given as the reasons for the increased demand. The proper use of a wood preservative adds a new quality to timber which enhances its value as a construction material.

The material treated consisted mainly of construction timbers for wharf, bridge, highway, mining and building purposes, piling, telephone and power poles, ties, fence posts, wood blocks for street paving and for factory floors, and timber for miscellaneous uses.

J. E. TIFFANY, ASSISTANT EXPLOSIVES ENGINEER of the U. S. Bureau of Mines, now in Europe, has been authorized by the Secretary of the Interior to inspect the mining and explosives experimental stations of England, in order to compare their methods of testing with those used in the United States. Mr. Tiffany also will study the use of permitted explosives in British coal mines.

*Abstracted from *Electrical World* of April 29, 1922.



HELL GATE PLANT CAN GET ITS COAL BY SEA OR LAND

This plant is the first in New York to sense the advantage of being able to get coal direct by boat from the non-union fields of West Virginia and Virginia or even from Great Britain if need be.

Henceforth the Combustion Engineer Will Prove Powerful Factor in the Selling of Coal

Mainly a Psychological Worker, the Fuel Engineer Must Show Skill, Ability to Handle Men and to Make Friends—He Also Will Train Coal Salesmen in the Rudiments of Boiler-Room Practice

BY E. W. DAVIDSON*
Chicago, Ill.

KEEN competition in coal selling seems inevitable during the period that will follow the present strike. Coal men generally agree that demand can hardly be expected to equal the supply and consequently the man who sells coal is even now girding his loins and sharpening his wits. Companies big and little are taking a long look into the future, trying to determine their selling policies and preparing to avail themselves of every selling aid possible. One such aid is the combustion engineer—horny handed perhaps, but tactful, and at home anywhere from the ashdump up through the boiler room and the chief engineer's smudgy office to the mahogany-trimmed sanctum of the president.

The combustion engineer has been in the business of helping coal producers sell fuel almost long enough now to be acknowledged as a coal-trade necessity—almost, but not quite. For years he has occasionally been called from the mine's own boiler room and sent out on special jobs such as "finding out what's the matter with our coal in So-and-so's plant." But only recently has he been placed on the payroll with the title of fuel engineer and with a regular and official relation to the selling organization.

FUEL ENGINEER'S JOB ONE WITHOUT PRECEDENTS

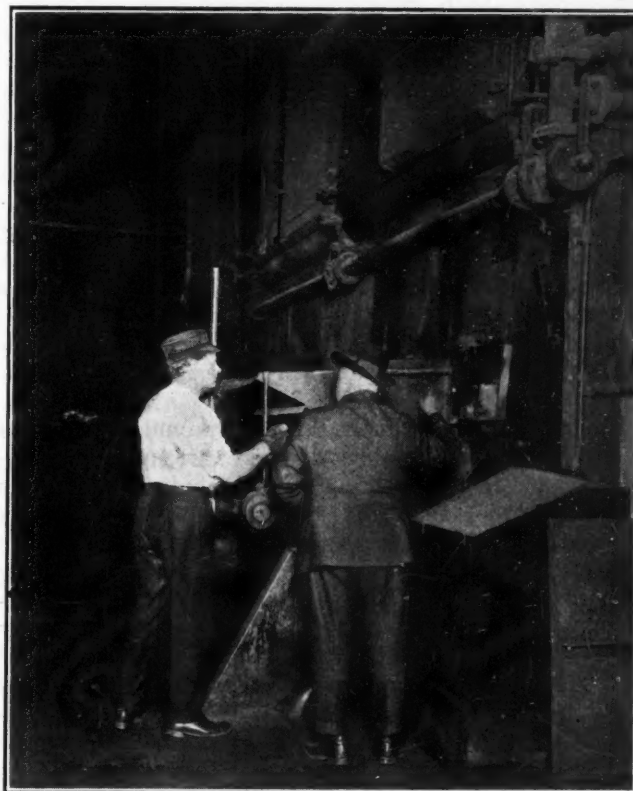
In a large measure he has made good. But it cannot be said that he has done so in every case. There are all sorts of pitfalls for his feet. There are all manner of critics above his head. Like every other pioneer in industry he has at times blazed crooked trails. He by no means can lay a straight course even now. He is still a pioneer. For that reason he is not yet an accepted necessity in the coal-selling business; but he is approaching that goal. He is nearing it with enough steadfastness of purpose to win recognition from many a strong and far-seeing coal company. In the Midwest region, for instance, several of the important fuel interests have given him a place.

The Chicago, Wilmington & Franklin Coal Co. employs S. H. Viall, a well-known fuel engineer. The Old Ben Coal Corporation has Otto Hertel together with a varying number of assistants. The Bell & Zoller Coal Co. employs V. G. Leech, and the Harrisburg Coal Co. has A. Bement on its regular staff. These are the men who have done most of the trail blazing for the fuel engineer now entering the sales organization of the coal business.

And now the fuel engineer is beginning to broaden his service. He is helping to get business, especially from comparatively small coal users, by methods few salesmen are capable of employing. Furthermore as an instructor of salesmen he has great possibilities which few companies have yet realized.

The difficulty encountered by this expert in proving his worth to his company, expressed in dollars and cents, explains why he is not appreciated by every coal concern. Occasionally he is lucky enough to run a test in some large fuel consumer's boiler room which wins a big contract over the best efforts of competing companies. Occasionally also he is able to point out changes in boiler-room methods which, when made, turn a sour customer into a satisfied one, thereby saving much business for his employer. But such cases are more or less unusual. The average experience of the fuel engineer is that he does much skillful work for a fuel purchaser without being able to put his finger on any absolute gain to his company. He knows his employer has benefited by his labors, but, like advertising, his services are difficult to measure concretely.

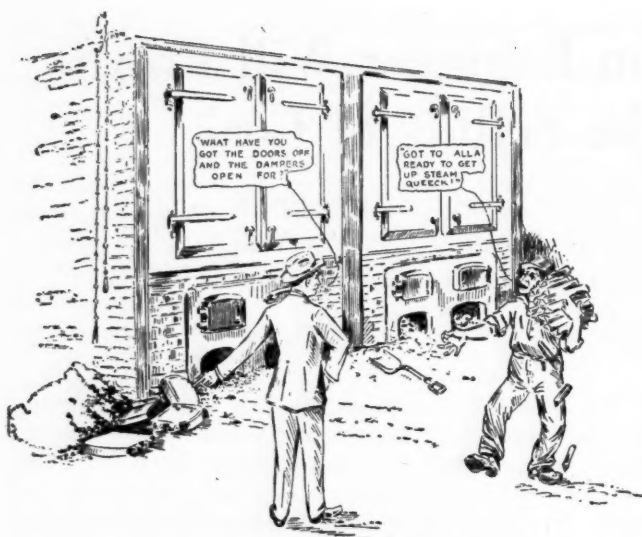
"One reason for this," explains one of the most experienced of the fuel engineers in sales work, "is that our service is largely psychological. It is not always the actual work we do that counts most. It is fre-



THE FUEL ENGINEER GOES DIRECT TO THE SEAT OF DIFFICULTY

Although the combustion expert must be able to meet and talk with every official of the purchasing company from the president down, it is mainly the fireman with whom he must deal and whom he must "show."

*Western Editor, *Coal Age*.



HOW TONY RAISED STEAM

Many problems confront the fuel engineer—some simple, others complex—but most of them have to do with draft intensity and control.

quently the impression we make that does the business. Take a case where three or four coal companies are bidding against one another for a big contract. Often there is mighty little difference in the quality of the coals. Any one of them, of the correct size and fired properly, would give just the results the consumer wants.

"Suppose the fuel engineer for one of those coal companies goes into the consumer's plant and by his manner rubs people the wrong way and another goes in and wins friends and confidence. If both of them run tests in exactly the same way with exactly the same conclusions, each recommending his own company's coal, who do you think gets that coal contract? The answer is easy.

"I tell you the fuel engineer has to be an accomplished man. He must know how to run a boiler room. He's got to be able to meet all the men in the plant each on his own plane and make them all see that he knows his business and that he has their interest thoroughly at heart. He's got to be a cross between a combustion engineer, an executive and a salesman, with emphasis on the last. Above all he must know men and be able to handle each one right. If he does not, he might as well never go into anybody's plant. He will do his employer more harm than good. He will be psychologically a dud."

It cannot be denied that this veteran engineer knows what he is talking about. There are plenty of instances on record wherein a fuel engineer has gone forth on order from his employer, with instructions to find out why a customer is dissatisfied with the coal he has been getting, only to convert that mildly displeased customer into a rabid knocker whose business is lost forever. He does it, perhaps, merely by entering the plant with a "Here-lemme-show-you-guys" air. He may show them beyond question. The errors he points out may be indefensible and the improvements in boiler-room practice he recommends may be highly desirable; but his company probably will lose the customer just the same.

"That fellow is just throwing a bluff," reports the exasperated chief engineer to his superior, when the combustion man has gone.

"I guess we'll try another coal, just to see how it

works," the superior probably tells the coal company. No matter how willing he may have been to continue relations with the firm originally furnishing his fuel, he does not want to match his own judgment on coal against that of his engineer. So the business is lost and months or years of careful missionary work by the coal-selling organization is reduced to naught in one day by the fuel engineer who has exercised insufficient tact.

MUST HAVE "A WAY WITH MEN"

It is extremely difficult to find an engineer gifted with this tact. No matter how thoroughly trained he may be in combustion, no matter how much practical experience he may have had, it is foolish to suppose that any man is so competent that he can walk into any one of a hundred installations and know more about the conditions peculiar to that particular plant than the man who has been running it year after year. Consequently, together with a specialized boiler-room knowledge he must combine "a way with men." Thus equipped he can go into any number of strange plants, put across a good idea here and there and win good will for his company and confidence in its coal.

Occasionally the customer makes the fuel engineer's position difficult. One of the veterans in the business one day was sent out to a small packing plant that had been a regular customer. In that plant a size of coal called "No. 3 chestnut" had been used for a year under contract. It had been a troublous period, but the packer had not complained to the coal company. Instead he took his own engineer's word for it that the coal was below standard. The first the company knew of this was when the displeased packer declined to renew his contract and declared he was going to buy elsewhere. With things in this condition the fuel engineer visited the plant.

"Here, Joe, is the man who's going to show us how to run our plant," was the sarcastic introduction the packing-house manager gave the fuel engineer as he led him into the plant engineer's cubbyhole of an office.

"When he said that," relates the fuel engineer, "I knew just how they all felt toward my company and toward me. I might have quit and gone home right there. But instead I just spent the day winning that engineer, without even looking at his boiler room. The next day I got down to business, but you bet I didn't pose as knowing anywhere near as much about that plant as the dirtiest fireman in it. However, by that time the engineer had an idea I was a pretty good man, so he listened whenever I talked about combustion.

COOKING TANKS CALLED FOR PEAK BOILER LOADS

"They had two 400-hp. boilers, fitted with chain-grate stokers, though most of the time one was enough. Only occasionally, when they needed steam for the cooking tanks, did they attain a peak load too great for one boiler. Well, the engineer had given orders that the men should keep their fires clear back against the water-backs. With such a long fire as that, they had to choke the damper to keep the safety valve from blowing all the time. The result was that all the air that the low draft would take into the furnace came up through that part of the fire bed close to the front, while the fire at the back lay solid against the grates with no air going through to cool the bars. In consequence the grates were simply burning up all the time. Section after section was ruined. The same

thing happened with grate after grate. They couldn't understand it, so they blamed the coal.

"It was easy to see what to do. All they needed was finer coal. That would make a fire bed so dense that the little air necessary to run their fires could not all come up through the front part of the grate but would have spread over the whole area. I didn't tell that engineer what was the matter. I led him to it by asking him questions. The first thing I knew he was dashing up to headquarters telling the boss he had discovered that he should be using screenings instead of chestnut. They tried a car. It worked fine and we got the contract for their next year's supply—10,000 tons.

"But did I get complimented for keeping a customer who had decided to leave us? I did not. The salesman in that district was peeved because I got that plant to use coal costing 25c. a ton less. To this day he alleges that I beat the company out of \$2,500."

This suggests a great service the fuel engineer can render his company—a service seldom thought of by many coal firms. He can train salesmen with an effectiveness hardly to be equalled by even the best of short courses in combustion engineering. If, for instance, the particular salesman who still protests over the loss of \$2,500 of business had understood the rudiments of boiler-room economics he himself might have induced the plant in question to switch from chestnut to screenings without the services of the fuel engineer.

Keeness in future competition probably will require more technical knowledge on the part of the men who sell coal. Where can they get it? Few of them are engineers. Few ever fired a boiler. Some coal companies have tried to drum rudimentary engineering into them during seven-day salesmen's training courses. Too often it does not "take." In the first place the dose is too large for a single treatment. Most of it goes by ungrasped. Secondly, the lessons as they are outlined on the blackboard are too much in the abstract. And in the third place the salesmen, drawn into the city for the week, usually are human enough to devote much of their thought during class to what they are going to eat that evening and to the "show" they expect to see. The conference is more or less of an outing. It is difficult to keep it down to "brass tacks."

BEST PLACE TO LEARN IS IN BOILER ROOM

"But just let me take one of those fellows out on a job with me," says a combustion engineer whose service to his company has been a great business asset, "and I'll teach him more in one day down in somebody's boiler plant than he could learn in a week anywhere else. He's got his mind in it. It's business for him. And there's a practical application for every theory. He's psychologically ready for his lesson there. He gets 90 per cent of it and fixes it in his mind.

"I think it would be a good idea for every company with a fuel engineer to have that man make regular tours of the field—two or three days or possibly a week or two with each salesman, depending upon conditions in the territory. If the salesmen know he's coming and about when to expect him, they will take more interest in every little problem and every little complaint of their customers. They will make up lists of places to call with him and things to be done. The result will be better satisfaction from that company's trade and salesmen much better trained."

A salesman with only a rudimentary knowledge of

boiler-room practice would be able to solve many of the problems that perplex small plants manned only by a more or less unskilled fireman such as was on the job a year or so ago for a small Dakota biscuit company that was using coal shipped by an Illinois mining company. One day a salesman wrote in to the home office saying that the president and general manager of the biscuit factory had decided to change to another kind of coal because he had discovered his fuel costs, in proportion to steam output, were almost twice those of anybody else in his industry. The salesman had talked loudly and long, using his most persuasive methods, but all to no avail. He asked for the service engineer.

DAMPERS WIDE OPEN AND FIRES ALMOST OUT

"The plant turned out to be one of the dirtiest little dumps I ever saw," related the fuel engineer. "Originally it had but one boiler, but the president told me he had installed another because the 'engineer' insisted he could save coal that way. You see, the occasional peakload was too great for one boiler. Ordinarily, in warm weather, the plant needed steam only to heat water and once in a while to run the ovens when there was no need to heat the building. It was summer when I was there.

"Well sir, I found the little Italian who was trying to run the boiler room so as to 'save coal' had the dampers wide open—they looked as if they never had been closed—and the ashpit doors clear off!

"What have you got the doors off and the dampers open for?" I asked him.

"Got to," he said. 'Alla ready to get up steam queeck'!

"About that time somebody from up in the bakeshop hollered down for steam for the ovens. Well, you ought to have seen that little fellow raise steam. With his drafts all open and no demand for steam, his fire had practically gone out. He grabbed up a lot of kindling and threw it in both fireboxes. Before I knew it, he had those boilers popping off, and less than half of a good fire under either of them! Then, almost as quickly, the fires cooled down again on account of the great quantities of excess air going through the furnaces.

"His system was to try and keep two thin firebeds hot all the time, even though most of his fuel went up the stack. Then, whenever steam was needed, in went the wood and up went the pressure. Great scheme—nit.

"Well, all they needed in that plant was to put in a good, conscientious fireman who knew what to do and was willing to work. Then, in summer they could cut out one of the boilers and by decent, intelligent firing, raise enough steam to take care of the peaks. In winter they could work both boilers, keeping one fire bright and the other checked except at rush hours. To make a long story short, that's what they did, and as far as I know they're getting along all right. I know they're still buying our coal regularly and without a kick."

These service engineers meet all sorts of problems, going and coming among scores of plants, facing tasks both simple and complex. In one case an engineer went into a plant to find out what ailed the draft through a new horizontal water-tube boiler that was not performing as well as the others. The plant engineer insisted its design was exactly the same as that of the boilers previously installed, and to all outward ap-

pearances he was right. Finally the fuel engineer asked to have the fire drawn and the boiler cooled off so that he could make a more thorough examination. He found the opening from the combustion chamber to the bank of tubes was only 36 in. and the aperture from the tubes to the space below the steam drum was but 18 in. wide. He recommended 60- and 40-in. openings. Sections of the lower and upper baffles were accordingly knocked out and the fire was rebuilt. From that day on the boiler performed excellently.

"My job is made up of a lot of things, but 80 per cent of them have to do with correcting faulty draft," declares one of the combustion experts who works out of Chicago. "Seems as if there are lots of power-plant engineers who do foolish things to the currents of air that are the breath of life to their whole plants. I remember one case where I found an engineer completely fuddled because his two boilers wouldn't work worth a cent after two rusty old steel stacks had been taken down and a slick new brick stack erected to replace them. The old stacks had led directly off the tops of the boilers. The new brick chimney had to be built off about 20 ft. to one side, where there was room for it, while a horizontal S-shaped steel breeching connected the boilers to the stack.

"Because that brick stack had exactly the same area of cross-section as the combined area of the old steel stacks and the same height—70 ft., I think it was—the engineer figured it would give exactly the same draft. He forgot that the gases had to be pulled through that 20 ft. of horizontal breeching with its three turns, and that to do this work required considerable power in the form of draft intensity. After the new stack was in use, the draft at the flue-cap doors of the horizontal fire-tube boilers was reduced from approximately 0.45 in. with the old stacks to about 0.3 in. with the new one. Of course all that was necessary was to add enough more height to the new stack to exert the extra 'suction' that was required to pull those gases through that crooked breeching. A foot of stack height increases the draft about 0.0063 in. So, knowing from the gage just how much the new draft fell short of the old, he added enough lightweight tile top to the stack to give just the draft required."

It may be added that the engineer who figured out the problem of that stack did not sell any coal and that he cost his employing company more than he returned in results. There is no definite explanation for this condition. It is typical of much of the service of fuel engineers employed by coal companies. If their employers do not profit by the good will they create, then their salaries and expenses are wasted. But wise men in the coal industry firmly believe that the competent fuel engineer is indispensable. They believe the fuel engineer is beginning to put into coal salesmanship an element of the technical that it has long needed and which, in the strenuous days to come, will prove of great value.

FIELD STUDIES HAVE BEEN MADE in Pennsylvania by the U. S. Bureau of Mines regarding the preparation and particularly the washing of both anthracite and bituminous coal. In addition special attention was given to two new coal-cleaning processes now being tried out on anthracite—the Conklin-Elmore and the Chance processes. Methods for the utilization of culm were examined. In the bituminous fields the use of tables and dewatering pits were studied.

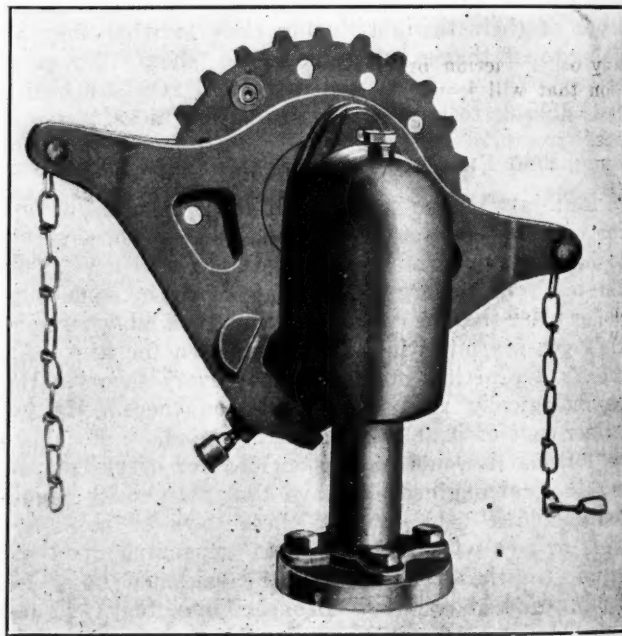
Ratchet So Regulates Soot Cleaner That Steam Cleans all Surfaces Equally

SOOT-CLEANER owners sometimes have complained that these devices did not thoroughly remove all the accumulations of soot from their boiler tubes. Investigation disclosed that in a majority of such cases the cleaning elements either were being rotated too fast or being operated by careless workmen through only a fraction of their full permissible sweep. In consequence the cleaner was prevented from doing its work properly, the steam jets not being allowed sufficient time for complete removal of the soot from the tube surfaces.

To correct this difficulty, as well as to make the soot-cleaning operation more mechanical and less dependent upon the uncertain human factor, a new ratchet cleaner head has been designed and is now being placed upon the market by the Vulcan Soot Cleaner Co., of Du Bois, Pa.

The new head is so constructed that when the operator pulls the chain the cleaning element is rotated through only a small arc. It can be turned no farther until the ratchet frame has been returned to its original position, after which a pull on the chain causes the element to rotate another space. Between movements of the new head, the steam jets have an opportunity to concentrate their action upon a definite section of the tube surface for a length of time sufficient to insure a thorough removal of the soot. When the complete arc of effective operation has been swept through in one direction, this being limited by "stops" especially set for that purpose, the mechanism automatically reverses itself and the cleaning element moves backward in the same manner through the same arc. Any soot that may have redeposited after the first movement of the element is completely removed on the reverse travel.

In designing this head the fundamental purpose of every soot-cleaning apparatus—namely, the thorough



RATCHET WHICH MAKES EFFICIENT OPERATION OF SOOT CLEANER NOT A MATTER OF CHOICE

A soot cleaner can be used so as to blow steam to waste in one section of a boiler and leave the rest of heating area undisturbed and cluttered with soot. By using a ratchet the movement is made dependent on a series of actions and therefore cannot be done so as to direct all the steam to one point.

removal of soot—was kept constantly in view. The device was thus built with this purpose only in mind, placing no dependence on the competency of the individual actually manipulating it. The net result is a mechanism that takes the control of cleaning entirely out of the hands of the operator and places it solely in a ratchet-operating head.

This head possesses five characteristics of high importance to the power plant owner. These are: (1) It prevents the man operating it from neglecting any portion of the complete sweep of the cleaning element; (2) it substitutes a step-by-step rotation for the old irregular, uncertain movement governed by the whim of the operator and his desire to get through with the job as quickly as possible; (3) it assures a saving in the quantity of steam used, because the operator knows

that he has to make the sweep only once in each direction and can stop when this has been completed; (4) it provides the operator with a clearly defined task, instead of a vague and indefinite one, and (5) it entirely eliminates wrong methods of soot cleaning.

As may be seen in the accompanying illustration, the new head is simple and strong while its action is positive and sure. It is operated independently of the steam valve, and consequently should the operating mechanism accidentally fail for any cause the whole cleaner system is not put out of commission while repairs are being made. The value of a soot cleaner depends upon its usefulness. If the temporary failure of one element means that the whole system is out of use until that one part has been repaired, the real utility of the cleaner is seriously impaired.

San Francisco Labor Plan Guards Interests Of Public, Labor and Employer

WHAT is termed a new plan for handling labor has been introduced by the Industrial Association of San Francisco. Here is how the association explains it:

"The general public may be interested in learning that the American plan as established and enforced in San Francisco by the Industrial Association is something distinct and different from the old-time, so-called open shop. Whereas the open shop wherever enforced usually has meant the entire absence of all restriction or restraint upon employers with respect to wages paid, hours of work and other conditions of employment, thereby giving opportunity for unscrupulous employers to deal unfairly, the American plan in San Francisco has set up machinery for reasonable control of these matters in the interest of the public.

"In other words, it really has been a *plan*, definitely conceived and definitely carried out, in the interest not of any special group or faction but in the interest of the three parties to industrial relations: the public, labor and the employers.

"The American plan is predicated upon the proposition that the public interest is paramount to that of any other community element, and that neither labor nor capital, nor any other faction or class, should be allowed to take action that will jeopardize that interest. And, as the public interest actually would be jeopardized as much by unfairness of any kind visited by the employers upon labor or consumers as by autocratic labor-union control of industry, the American plan prevents either of these things taking place.

"The American plan says to labor: 'You cannot be allowed to obtain an autocratic, selfish and restrictive control over industry, for the result is that not only the industry itself but the whole public is seriously injured thereby.' It says to the employer: 'You cannot be permitted to beat down labor, for when labor receives less than that to which it is justly entitled, not only labor but the whole public suffers seriously and is permanently injured, and we will not give you such unlimited backing that you can enter into combinations with your competitors and get a monopolistic control in your industry under cover of a community-wide organization.'

"Then, turning again to labor, it says: 'You are entitled to an equitable wage, to reasonable hours and to decent working conditions, but in turn you must be willing to give to your employers honest, loyal and efficient service.' And turning once more to the employer, it says: 'You have the right to demand honest, loyal and efficient service from *all* your employees. You are entitled to the right of hiring and discharging employees individually on merit, without outside interference, so long as on all occasions that right is exercised only upon broad principles of justice; and to the right of rewarding individual merit

in employees, but in turn you must recognize the obligation of the management to the employees generally, and particularly to co-operate in providing, so far as possible, continuous employment.'

"Roughly, and in brief, that is the American plan as established and enforced in the building industry of San Francisco by the Industrial Association. Theoretically fair, it stands proven as practically fair as well. It has freed labor from the self-imposed but misconceived restraint of selfish leadership, has emancipated employers from the throttling control of labor unions, and has guaranteed to the public, to labor and to the employer that all their legitimate rights will be protected at all times."

Would It Be Profitable to Make Fuel Smokeless for Salt Lake City?

IN a survey of the Salt Lake City smoke problems, engineers of the U. S. Bureau of Mines found that about 27 per cent of the smoke made in the city was from residences. As the most obvious way of eliminating the domestic smoke nuisance is to provide smokeless fuel for these consumers, the bureau conducted an investigation regarding the feasibility of establishing a local supply of coke to take care of domestic heating requirements. The bureau found that the installation of a byproduct plant of sufficient size to supply the entire domestic demand of Salt Lake City for coke fuel is not economically feasible unless municipal legislation prohibiting the production of smoke is obtained. By education and legislation consumers must be induced to pay \$3 more per ton for smokeless fuel than for the ordinary bituminous coal in order to make the carbonization plant a success. Although the coke and byproducts of a low-temperature carbonization plant probably would find a readier market than those of a standard high-temperature plant, neither plant would be a commercial success without protective legislation.

A semi-experimental 100-ton plant should be able to operate with a smaller differential between the price of coal and coke due to more favorable disposal of the smaller volume of byproducts. Future developments in the iron industry of the state and in the substitution of byproduct ovens for the beehive ovens at Sunnyside, Utah, when conditions warrant the change, will make available a supply of the smaller sizes of coke for domestic use, but it is doubtful whether the entire domestic demand can be supplied in this manner at a sufficiently low price. No single solution for the domestic smoke nuisance appears available. Means which should be considered for alleviating the nuisance are (1) sale of the available supply of gas-house coke; (2) briquetting of coke breeze from the beehive ovens at Sunnyside for domestic fuel; (3) burning of powdered coal where feasible; (4) installation of semi-experimental 100-ton plant for low-temperature carbonization; (5) continuation of educational campaign to teach domestic consumers proper methods of firing the native coal.



Problems of Operating Men

Edited by
James T. Beard



Successful Use of Flexoid Tubing in Sinking Mine Shaft and Slope

Use of Exhaust from Compressed-Air Machines for Ventilating Blind Headings Causes Trouble—Flexoid Tubing Saves Expense, Gives Good Air and Avoids Disaster

IN REGARD to the ventilating of a blind entry, by means of the compressed air used for driving the drills and coal cutters, allow me to say I have had considerable experience of the kind, having often ventilated tight places by allowing air to escape from the pipe line, at times when the machine was idle. At other times, the exhaust from the cylinders was sufficient to furnish good ventilation.

While the results were generally good and, I believe, breathing the air produced no ill effects on the men, there were those who would complain that they suffered from severe pains in the head, shortness of breath and a general all-gone feeling, which they attributed to breathing the air exhausted from the engine. Personally, I ascribed these effects to too much "moonshine" the night before.

No argument could convince these men on that point, however; and it cannot be denied that there is a deep-seated prejudice, in the minds of many, against the use of compressed air for ventilation. Knowing this, I decided to adopt some other method of ventilation when taking charge of another job.

This undertaking was to sink a 145-ft. shaft, together with a 500-ft. slope, at given points on the surface, and connect the two openings underground by driving entries in the seam. The distance between the bottom of the shaft and that of the slope was 600 feet.

Investigation showed that several firms were making small fans or blowers similar to what a blacksmith uses at his forge only larger. I secured two of these blowers and a considerable length of flexoid tubing made by the Bemis Bro. Bag Co. of St. Louis.

One of the blowers I installed at the top of the shaft and the other at the mouth of the slope. A length of the flexoid tubing was attached to each blower and extended down the shaft and the slope, respectively, to conduct the air furnished by the blowers to the working faces.

The result was more than satisfactory and the entire cost of installing the two fans with sufficient tubing to finish the job and including what repairs were made from time to time was less than \$1,000. This cost was repaid

many times by the comfort and peace of mind of the men possessed of the compressed-air bugaboo.

There is one serious objection to the use of compressed air for ventilation, as was shown by what happened in an instance in my own experience. A blast had been fired at the face of a heading and the entryman, wishing to clear the smoke away quickly, opened the valve wide on a 2-in. air pipe that was under a pressure of 100 lb. gage.

There being no cutoff on the compressor, which was laboring heavily under the load, the engine at once started to race when the valve was opened. As a result the governor belt broke, and, in few moments, the engine and the compressor were strewn about the floor of the engine room.

A great strain is thrown on the compressor and the engine or motor driving it when operating under a heavy load. A sudden release of pressure is dangerous unless the compressor is equipped with the recent unloading devices. This severe strain, however, is a factor that must always be considered.

In conclusion, let me say that the flexoid tubing I mentioned must be put up in accordance with the instructions sent by the factory. Also, it must be kept in good condition, free from holes and not allowed to sag, if good results are to be obtained.

In my opinion, a good supply of fresh air can be had in this manner, with a less cost than by any other means on the market today. A similar tubing, I learn now, has been devised and is manufactured and sold under the name "Ventube," by the Du Pont Powder Co., Wilmington, Del.

Carrolltown, Pa. CONTRACTOR.

Sealing Off Abandoned Areas Safest Practice

Large caved areas impossible to ventilate—Panel system of working presents a new difficulty—Possibility of fire less when abandoned areas are sealed.

THE discussion regarding the sealing off of abandoned areas in mines has interested me greatly. I was particularly glad to see the letter of Al-

bert Ricketts, *Coal Age*, Mar. 23, p. 493, who argued in favor of the practice of sealing off such areas.

Previous writers had contended that it was dangerous to seal off these areas, owing to the likelihood of their becoming filled with explosive gas. The suggestion of ventilating these places will, at first sight, appeal to many as the right thing to do. It is my belief, however, that experience and further thought will convince most of these advocates that they are wrong.

While it is a simple matter to direct an air current into an abandoned area, it becomes a practical impossibility to conduct that current in such a manner as to make it sweep the entire area or even to dilute the accumulated gases to an extent to render them harmless.

CAVED AREAS PRESENT DIFFICULTIES IN KEEPING THEM CLEAR OF GAS

All will agree that caved ground generally prevents the erection of brattices and other means of conducting the air through such places. An air current directed into caved workings will, naturally, take the shortest way out and, if tested at the point where it leaves the old works, will seldom be found to contain more than a small percentage of marsh gas.

Such a test, however, cannot be taken as any indication of the true condition of the atmosphere existing in the heart of the old workings. Mine officials who have had occasion to examine large abandoned areas, will recall many instances where it was impossible to explore such places any distance to the right or left of the path taken by the air current, owing to the presence of a dangerous percentage of gas.

Within the past few years, much mining has been done by the panel system, where each panel is an area by itself separated from other panels by barrier pillars. There is no fixed size for these panels, which may cover an area of ten acres, more or less.

ABANDONED PANELS HARD TO VENTILATE

It is evident that the ventilation of such areas when abandoned is quite a different proposition from keeping the old workings free from gas, in the room-and-pillar system of mining. In a large panel area, an air split of five or ten thousand cubic feet is practically lost, the air having a velocity that is almost negligible in such an area.

There is still another danger in attempting to ventilate large abandoned areas. This is owing to the disposition of such areas to spontaneous combustion. For this reason alone, if for no

other, my belief is that the only safe method of dealing with an abandoned section in a mine is to seal it off as tightly as possible by means of well built stoppings.

It is generally understood that fires cannot occur or gas be ignited where the supply of oxygen is insufficient for combustion. From the time an area is sealed, there is a continual though gradual decrease in the oxygen content of the air, owing to the absorption of the oxygen by the coal and through different forms of oxidation taking place.

It is worthy of note that, in any abandoned area, there may be sufficient air to support combustion and yet the ventilation be wholly inadequate to exercise any cooling effect in the mine, which is an important factor in keeping the old workings safe.

SEALINGS BUILT IN ADVANCE

My observation is that the conditions inviting gob fires in mines are so well known and recognized that many operators start the building of substantial seals some little time before an area is to be abandoned. These seals are carried well up towards the roof, in many of the openings and require but a short time to close them completely when that moment arrives. With proper care, sufficient air can be kept in circulation where the men are at work, while the condition in other parts of the area are such as to lessen the tendency of the waste to fire. To my mind, this is an important subject.

JAMES DICKSON.

Victoria, B. C., Canada.

Another Letter

IN his letter, *Coal Age*, March 30, p. 536, I. C. Parfitt gives a number of good reasons why the building of seals is not an effective method of dealing with waste or abandoned places in mines. Both the writer of that letter and of the following one argue in favor of ventilating such places instead of sealing them off.

While I am not in favor of the erection of seals in all mines, there are conditions in the Bicknell field where I am now employed that render it impossible to work the mine without sealing off abandoned areas.

The first writer to whom I have referred says that the practice of building seals is to "establish intimate relations with a known and active enemy." For my part, I would rather do that than to take chances with an unknown enemy, as would be the case in attempting to work No. 5 coal at Indian Creek, Bruceville and American No. 1 mine, without seals.

In this field, what is called the "steel band" is a hard rock that lies some 5 ft. above the coal. The top of this seam caves badly and makes much gas, which accumulates on the falls, often coming down to the top of the coal and requiring a strong air current to dilute and carry it away as fast as it accumulates.

To attempt to ventilate, say ten or fifteen worked-out places, under these

conditions, would require from 75,000 to 100,000 cu.ft. of air in circulation. Moreover, there would be every likelihood of the steel band falling and striking sparks that would ignite the gas on the falls.

Under conditions where a feeble air current is sufficient to ventilate an abandoned area, it may be possible to keep such places safe and free from any dangerous accumulations of gas. That is not possible, however, under the conditions I have mentioned.

In working coal 6 ft. high, under 250 to 300 ft. of cover, safety requires barrier pillars 75 ft. thick; and where large quantities of gas are generated, pipes should be built in the seals to enable samples of the gas to be taken, from time to time.

My experience is that what change of pressure takes place in such sealed areas is very gradual, and due wholly to changes in atmospheric pressure. When the seals are first built, there is the same pressure on both sides of the seal. As the barometer falls, the air within the sealed area expands and blows out through the pipes. Again, as the barometer rises, the mine air is forced into the inclosure. In other words, the pipes left in the seals blow out and blow in with every fall and rise of the barometer.

A drillhole sunk from the surface has such a small area, compared with the volume of air inclosed behind the seals, that such holes have little effect to quickly equalize the pressure due to a change of barometer. At the American No. 1 mine, we never had a pressure behind the seals greater than $3\frac{1}{2}$ in. of water gage or, say 18 lb. per sq.ft., blowing out and almost that when blowing in.

Our experience is that when seals are properly built in good solid coal pillars there is far less danger than when these abandoned areas are left standing open.

ALBAN RICKETTS,
Wheatland, Ind. Standard Coal Co.

Success of Any Plan Depends On How Carried Out

IN REGARD to the sealing off of abandoned workings, I have been surprised at the difference of opinions expressed in the several letters that have appeared in *Coal Age*. This is an important question in coal mining and one that has been given much thought and study.

To my mind, there are arguments in favor of both of these practices; and it is necessary to make a careful study of the conditions, before deciding which method would be the safest to adopt. Whatever plan is employed, its success will depend on the manner in which the work is carried out.

I know a mine where they seal off all abandoned workings and have no trouble. Again, I know of other mines, within a radius of ten miles, where the abandoned workings are left open and no trouble is experienced by reason of so doing. There are many things to be considered in deciding a question of this kind, and it is impossible to lay

down any fast rule, without being on the ground and knowing the conditions.

The questions of whether the mine generates gas; is making much water in the workings; whether the pillars are drawn or left standing; and whether the mine is ventilated on the blowing or exhaust system, must all be taken into consideration, together with other things that are made known only by a careful study of the situation. In general, my belief is that no serious danger need be expected when a proper plan has been adopted and is carried out in good faith, from the start.

Just now, I have in mind a large mine that was opened in a very gassy coal. The mine was planned by an engineer who made a careful study of the conditions that must be met underground. The main headings were driven five abreast and butt headings turned off these to the right and left, in pairs, at distances of 500 ft. apart. The three middle main headings formed the intake and the two side headings the return airways for each respective side of the mine. The three intake airways were each 6 x 10 ft., in section, giving a total intake area of 180 sq.ft. The two side headings were driven 15 ft. wide, in order to provide an equal return area.

Twenty rooms were driven to the right and left of each pair of butt entries, making forty rooms in a section ventilated by a single air split. Concrete stoppings were used in all crosscuts and the air bridges or overcasts were reinforced with steel rails. Double trapdoors were used between the two headings of a pair, to avoid any interruption of the air current.

No pillars were drawn in this mine, as the surface conditions would not permit. Accordingly, each section was thoroughly ventilated until all the rooms on that section had been worked out, when the entire section was closed off at one time. As quickly as one section was worked out, another section would be in readiness for development.

In this mine, the company experimented, for a short time, with sealing off the butt entries by building 2½-ft. concrete walls having a 4-in. pipe near the bottom and a 6-in. pipe at the top, built into each wall. These pipes were provided with valves and were for the purpose of draining off any water that might accumulate and for testing the gas behind the seals. With such a system as this, no danger should be expected if the plan is carefully worked out and followed.

OSTEL BULLOCK.
Central City, Ky.

Ideal in Superintendency

No one man can fit all positions—The ideal superintendent must have wide knowledge and experience in all branches of mining—One chief qualification ability to keep down costs.

THE discussion, in *Coal Age*, of what constitutes the make-up of a mine superintendent has been both amusing and instructive. I have wondered why we have not heard from more superintendents themselves, or

better yet why some general manager has not given us his test of qualifications for the position.

The general manager knows the type of men he must have as superintendent. In making his selection, he invariably studies carefully the fitness of the man he may appoint to fill the place. In this respect, a superintendent must pass the same scrutinizing test as a mule driver, timberman, trackman, electrician or other worker, only more severe.

No one man can be equally fitted for all the various branches of coal-mining work. There are superintendents that fill the position with credit to themselves and the companies who employ them; but, placed in another position, they would fail badly, because they are not adapted to the work in hand.

WHAT HE WAS GOOD FOR

I once knew an old farmer who had a dog that he had never been able to find what the animal was good for. One day a man came along and inquired of the farmer if he knew where he could get a good coon dog. "Well," said the farmer, "you can have this dog for \$25 and if he will not hunt coons bring him back and get your money."

About a year later, the farmer again met the hunter who, to his surprise, told him the dog was the best coon dog he had ever known. The farmer stroked his whiskers meditatively, and remarked, "I thought so, as he was no good for anything else."

Questions have been asked: Should a superintendent be a college graduate; a certified mine official; a good organizer; loyal to the company who employs him? To all of these questions, I answer "Yes, and have a hundred other qualifications besides." I have never known a mine superintendent to have too much knowledge and experience.

By way of illustration, let me assume that a coal company has a position open for a superintendent. He must be a man capable of assuming complete control of a mining camp that is isolated from the rest of the world. It is a new operation of fairly large size and the man chosen to superintend the work will be required to open the mine, build and equip the plant, and build the town, in a manner to secure the best returns on the money invested.

REVEALING FITNESS OF APPLICANT

We will assume that the position is advertised in *Coal Age*, where it is stated that the applicant must explain fully, in his first letter, his knowledge and previous experience in coal mining, and outline briefly his plan of proceeding in the undertaking at hand. This forecast of the situation would reveal plainly whether the applicant was a student direct from college, or whether he has the necessary knowledge and experience in coal mining that fit him for the place.

While it is true that the superintendent can employ an engineer, architect, mine foreman, electrician and other men fitted for their special work, he must himself have the knowledge

and experience to know whether or not they are efficient in their several departments. The superintendent cannot afford to take long chances on the fitness of the men he employs. The position requires a well trained mining man.

We have all seen operations where the plan of the undertaking could not be improved in any respect; and, on the other hand, we know of places where the plan is wholly impracticable. We have seen mining camps where little consideration has been given to the kind of houses suited to miners, or to the question of water supply, sewerage and other living necessities.

Briefly stated, the responsibilities that rest on the shoulders of a mine superintendent are manifold. Chief among them, however, is the necessity of keeping down costs. Here is where the superintendent must prove his real qualification. He must be able to show

a satisfactory difference between the cost of production and the selling price of the coal.

How often the question is asked, "What does your coal cost on the track ready for shipment?" The intelligent superintendent has this question ever in mind. Its answer is the test of his ability and fitness for the position he holds.

Speaking of college training, mention should be here made of the excellent work of Dr. E. S. Moore, dean of the School of Mines, State College, Pa., who has organized mining-extension classes throughout the coal-mining districts of the state. The result is that men and boys are being taught the essential principles of successful mining that will enable them to become practical men able to assume positions of responsibility in every branch of mining.

S. D. HAINLEY.

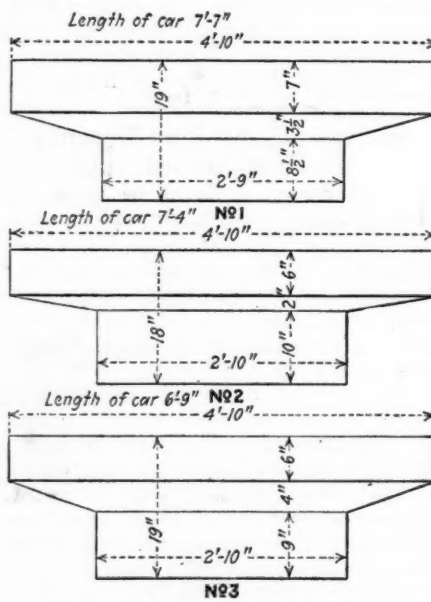
Osceola Mills, Pa.

Inquiries Of General Interest

Calculating the Capacity of Mine Cars

Miners Dispute the Rated Capacity of Mine Cars—Calculation of Cubic Contents Forms Basis of Tonnage Capacity—Average Mine-Run Coal, Forty Cubic Feet per Ton

SOME dissatisfaction arose recently, among a few of our miners, regarding the rated capacity of the mine wagons in use. It was finally decided



THREE TYPES OF MINE CARS

to submit the matter to *Coal Age*, those who were dissatisfied with the present rating agreeing to accept the decision in regard to tonnage and number of bushels the cars will hold.

In keeping with this agreement, I am

inclosing a sketch showing the dimensions of three cars, which are types of those in use in the mine, and have numbered these 1, 2, and 3. The cars are to be loaded even with the top and the coal is an average bituminous coal. All dimensions shown on the sketch are inside measurements. They are as follows:

No. 1 Car: Length 7 ft. 6 in.; top width, 4 ft. 10 in.; bottom width, 2 ft. 9 in.; depth, 1 ft. 7 in.

No. 2 Car: Length, 7 ft. 4 in.; top width, 4 ft. 10 in.; bottom width, 2 ft. 10 in.; depth, 1 ft. 6 in.

No. 3 Car: Length, 6 ft. 9 in.; top width, 4 ft. 10 in.; bottom width, 2 ft. 10 in.; depth, 1 ft. 7 in.

These dimensions, together with the depth of each section, are marked on the sketch, for each car. J. R.

Pa.

In estimating the tonnage capacity of the cars shown in the accompanying figure, which is a duplicate of the sketch sent us by this correspondent, we first calculate the cubic contents of each car and then compute the tonnage of the car, allowing 40 cu.ft. of mine-run coal, per ton, which is the customary allowance for bituminous coal of average quality. This allowance will, of course, vary slightly with the specific gravity of the coal, which may range from 1.2 to 1.5. The weight of the coal per cubic foot will also vary

according to its condition, whether dry or wet. For the purpose of estimate, however, it is customary to allow 40 cu.ft., per short ton of mine-run bituminous coal; or 40 cu.ft., per long ton of the same grade of anthracite.

CROSS-SECTIONAL AREA OF EACH PART COMPUTED SEPARATELY

It will be observed that the cross-section of each car is divided into three parts, top, middle and bottom sections. Reducing all dimensions to inches, the area of each section is found in square inches and their sum, divided by 144, gives the sectional area of the car in square feet. This multiplied by the length of the car, in feet, gives the cubic contents, in cubic feet, which di-

vided by 40 gives the desired tonnage. The calculations are as follows:

Car No. 1:	
Section	
Top	$7 \times 58 = 406$
Middle	$3\frac{1}{2} \times 45\frac{1}{2} = 159.25$
Bottom	$8\frac{1}{2} \times 33 = 280.5$
<hr/>	
19 in.	$845.75 \div 144 = 5.87 \text{ sq.ft.}$
$(5.87 \times 7\frac{1}{2}) \div 40$	$= 1.1 \text{ tons; or } 27\frac{1}{2} \text{ bus.}$
Car No. 2:	
Section	
Top	$6 \times 58 = 348$
Middle	$2 \times 46 = 92$
Bottom	$10 \times 34 = 340$
<hr/>	
18 in.	$780 \div 144 = 5.42 \text{ sq.ft.}$
$(5.42 \times 7\frac{1}{2}) \div 40$	$= 0.994 \text{ tons; or } 24.8 \text{ bus.}$
Car No. 3:	
Section	
Top	$6 \times 58 = 348$
Middle	$4 \times 46 = 184$
Bottom	$9 \times 34 = 306$
<hr/>	
19 in.	$838 \div 144 = 5.82 \text{ sq.ft.}$
$(5.82 \times 6\frac{1}{2}) \div 40$	$= 0.982 \text{ tons; or } 24.55 \text{ bus.}$

22.7 ft., making the theoretical volume $\frac{1}{2}(4 \times 22.7)8 = 363 \text{ cu.ft.}$ Practically, as before stated, a dangerous percentage of gas would extend back in this heading to a point almost to the last open crosscut.

QUESTION—For the purpose of handling the water accumulating in a shaft 115 ft. in depth, it is proposed to install an air lift capable of handling, say 70 gal. of water per minute, under a discharge head of 120 ft. To what depth will it be necessary to drill a wellhole, in order to give the required submergence of the column pipe necessary to insure successful working? Also, what air pressure will be required and what volume of free air must be provided when estimating on a discharge of 100 gal. per minute?

ANSWER—The safest practice in air-lift pumping is to provide a submergence of the column pipe not less than 50 per cent greater than the actual lift, as measured from the low water level in the sump or wellhole to the point of discharge at the surface. In other words, the depth of the submergence should be 60 per cent and the actual lift 40 per cent of the total vertical height of the column pipe. As shown in the accompanying figure, the

actual lift being 120 ft., the depth of submergence of the column pipe is half again this depth or 180 ft.

It is well to estimate on a column pipe of sufficient size to carry the required quantity of water with a velocity not to exceed 100 ft. per min. For a discharge of 100 gal. per min., on this basis, a 5-in. pipe will be required.

The air pressure must be sufficient to overcome a head of water equal to the depth of submergence, which in this case is 0.434×180

$= 78.12$, say 80 lb. per sq.in., corresponding to an absolute pressure, at sea level, say 95 lb. per sq.in. The estimated volume of free air required to lift 100 gal. of water per minute, through a height of 120 ft. is $(100 \times 120) \div 125 = 96 \text{ cu.ft. per min.}$

As shown in the figure, the air pipe (in this case $1\frac{1}{2}$ in. diameter) is carried under the mouth of the column pipe and bent upward and extends, say about 3 ft. within the column pipe, so as to insure that none of the air will escape downward, instead of bubbling upward and raising the water in the column pipe. It is the bubbling air within the pipe that decreases the relative density of the water column in the pipe, which is thereby forced up to the point of discharge at the surface, owing to the greater pressure of the water column in the wellhole.

Examination Questions Answered

Miscellaneous Examination Questions

(Answered by Request)

QUESTION—Assuming that a pair of headings, each 5 ft. high and 8 ft. wide, are being driven to the rise, on a grade of 10 per cent, suppose one of these headings is standing idle, waiting for a crosscut that is almost through, and the fireboss reports that the idle heading is filled with gas to within 1 ft. of the bottom, at the face. (a) State what quantity of gas is in the heading. (b) As mine foreman, how would you proceed to remove the gas with safety? (c) State what quantity of gas would be in the headings if the pitch was 10 deg. instead of 10 per cent.

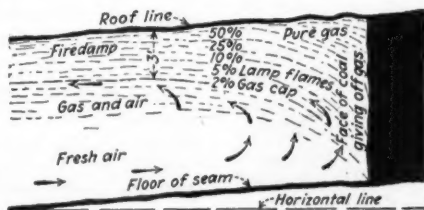
ANSWER—The height from the floor to the roof of this heading being 5 ft., and the rise 1 ft. in every 10 ft. of horizontal distance, a level line drawn from a point 1 ft. above the floor, at the face, would strike the roof at a distance of 40 ft. back from the face.

It is hard to understand how a fireboss could crawl under this body of gas and make an accurate measurement at the face, a foot above the floor. In so doing, he would disturb the gas and it would be difficult for him to retreat in safety.

(a) Theoretically, the body of gas accumulated in this heading and extending from the face to a point 40 ft. back, in the entry, has a volume of $\frac{1}{2}(4 \times 40)8 = 640 \text{ cu.ft.}$ It cannot be assumed, however, that this is pure gas. As shown in the accompanying figure, the diffusion of the gas given off at the face forms successive layers of gas-charged air, the percentage of gas increasing toward the roof. It is probable that, under the conditions stated, this heading would be filled with a fire-damp mixture from 2 to 3 ft. below the roof and extending almost to the last open crosscut, where it would be diluted

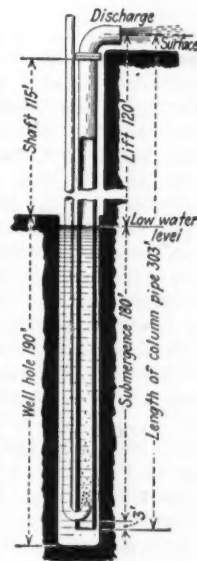
by the air current passing through that opening.

(b) This is a dangerous body of gas and, before making any attempt to remove it, the foreman should withdraw all the men working in that pair of headings. He should further safeguard all entrances to the main return of that current, so as to prevent anyone from entering the return. Having chosen competent men to assist him, the foreman should proceed to extend a line of brattice, from the outby rib of the open crosscut a short distance into the heading containing the gas. If this is the return heading, the line of brattice should be carried up the heading, about 2 ft. from the rib of the entry pillar. If this heading is the intake, the line of brattice should be carried along about 2 ft. from the opposite rib. It should be extended toward the face gradually, giving time for the air current to act on the gas. Always, careful tests must be made to determine the progress of the work



before extending the brattice another length toward the face.

(c) A pitch of 10 deg. instead of 10 per cent, corresponds to a rise of 17.63 ft. per hundred, which would be a 17.63 per cent grade. In that case, the theoretical distance the gas would taper off at the roof, for a depth of 4 ft. at the face, would be $4 \div 0.1763 =$



German Coal Output Shows Marked Increase; Renewal of Equipment Pressing Need

BY H. O. HERZOG
Berlin, Germany

A MARKED increase in coal output took place in March in most of the mining districts of Germany. The total production of that month was 13,418,000 tons, which is about 2,000,000 tons more than in March, 1921, and only 500,000 tons less than in 1913, the record year in German coal production. The figures for March do not include production by the Saar district and Alsace-Lorraine. March output was as follows, in metric tons:

Bituminous coal	13,418,000
Lignite	12,260,000
Coke	2,513,000
Bituminous-coal briquets	491,000
Lignite briquets	2,634,764

Production for the first quarter of 1922, in comparison with the corresponding periods in 1921 and 1913 is shown in the following:

First quarter	Bituminous coal	Lignite	Coke
1922	37,040,000	33,380,000	7,183,000
1921	35,479,000	30,072,000	7,115,000
1913	43,160,000	20,018,000	7,560,000

The returns for this year compare favorably with those of last year, but it should be taken into account that the extra shifts which were in force until March, 1921, aided materially in increasing the production of that period. The main mining districts share in the production as follows, in metric tons:

Ruhr	9,014,000
Upper Silesia	3,212,000
Lower Silesia	490,000
Saxony	402,000
Aix la Chapelle	231,000

The output of Ruhr coal during March exceeded that of February by 1,217,000 tons, but it should be remembered that March, 1922, contained three more working days than the preceding month. It is important, however, to note that production per day since February has increased by 11,000 tons. A slight increase also can be noted in the daily output of coke and briquets. Marked improvement in transportation has taken place. Complaints in this direction had completely ceased by the end of March. The improvement culminated in April in the unusual situation of more cars being available than were required. The accumulation of coal and coke reserves at the mines, however, had not materially decreased by the end of March. The quantity of fuel stored was still 1,475,000 tons, which is quite abnormal in comparison with last year.

The output in Upper Silesia was 500,000 tons, or nearly 20 per cent higher than in February, which, as in the case of the Ruhr district, is partly due to an increase of the daily output. The output of byproducts kept in proportion to the production of coal. Shipments, however, still suffered somewhat from inefficient transportation.

The production of lignite, which has almost doubled since 1913 and now closely approaches the output of bituminous coal, continues to increase. In the central German mining districts the increase since February is 7.6 per cent and for briquets 12.8 per cent. The increase is even more noticeable in the case of lignite coke, which, owing to the scarcity of high-grade coke, finds a ready market. A striking increase is seen in the lignite production in the Rhineland, which in March was 19.4 per cent higher than in March, 1921, and 118 per cent more than in 1913.

Without arousing special notice by the public, the price of German coal has lined up with the so-called world market standard. For years this has been the chief topic of discussion on the coal situation. The newest increase has brought prices to the following figures, in marks per metric ton:

Pit coal, unwashed and unassorted	907.50
Best steam nuts	1,194.30
Coke	1,308.10

These prices are at mine in Rhineland Westphalia. In various parts of the country, of course, the prices are higher, depending upon the distance from the mines. In Berlin, for instance, the wholesale prices are:

Pit coal, unwashed and unassorted	1,308.15 M per metric ton
Best steam nuts	1,600.86 M per metric ton
Coke	1,716.00 M per metric ton

At the present rate of exchange the gold parity of these prices is 19.07M, 24M and 26M respectively. Corresponding pre-war prices in 1913 were 20.75M, 24M and 26M.

Berlin prices approximate those of Hamburg and other places along the sea coast. This is more than English coal now costs in Hamburg. Apart from the fact that the grades used for shipping cannot be supplied in sufficient quantities from Westphalia, their price now is against them in coast towns. Unless the mark takes another drop, German coal will for some time be out of competition in such territories. Under such conditions, it would be against the interests of the shipping trade to keep the restrictions on coal imports in force. Foreign coal has already been placed on the same footing in taxation with domestic coal. The control of coal imports remains in force, but it has been greatly relaxed. Its complete removal, however, is only a question of time. There are strong reasons to believe that a free market of coal will have to be established soon.

It is unreasonable to suppose that coal prices will stay at their present level. The upward tendency is still too strong. The rapid rise of coal prices cannot fail to impart a strong impetus to the movement of other commodities of everyday use, which in turn must react upon the cost of labor. Miners' wages have been keeping pace with the rise of coal prices, having recently been increased 40M per shift. On the heels of this rise, the miners have asked for a further increase, which if granted will cause coal prices to be readjusted at a still higher level. Apart from the cost of labor, however, an increase in prices hardly can be avoided, for the mine owners must be enabled to set aside a certain sum toward sinking funds. Appropriations hitherto made for this purpose have been inadequate. Renewals and modernizing of equipment, especially for the coking plants, the need for which has become very pressing, can no longer be postponed. It is now clear that no further material increase of production can be expected from swelling the number of miners, therefore in view of the ever growing cost of labor, higher efficiency has become the keynote of the situation.

The time seems near at hand when conditions will call for a halt in the upward movement of coal prices. As it is, there is no margin left to satisfy the reasonable claims of the mine owners for a certain share of the price increases, which of late have largely been absorbed by wages. Otherwise, the mines will be forced to look elsewhere for financial support, which can be found only among the large consumers. This will inevitably lead to complete vertical trustification.

The attitude of the administration, which looks upon such trusts with ill favor, is rather illogical when judged by its veto of the new constitution of the coal syndicate. The latter provides that pure mines desirous of maintaining their independence be enabled to conclude substantial long-time contracts with consumers outside of their syndicate ration as a substitute for the advantages mines incorporated in vertical trusts enjoy with regard to financial support. This action of the administration instead of preventing the formation of combines is likely to encourage it. Apart from this, the administration has decreed that a combine between producers and consumers shall not be privileged in the matter of free supply from the one to the other unless the former hold at least 80 per cent of the capital of the latter, instead of 50 per cent as has been proposed. This may put obstacles in the way of combines, but will not obstruct them.

The aim of the administration has, of course, been to prevent further increase in the leakage which such combines cause to the quantity of coal at the disposal of controlled distribution, with an eye upon the attitude of the population, chiefly the working classes. Its attitude is only justifiable as long as the present scarcity lasts. Much will depend upon how conditions shape themselves in Upper Silesia—how much of the Upper Silesian production can be preserved for Germany proper. The question whether the present level of coal prices will influence the size of the coal tribute to France and Belgium also will be an important factor in the coal situation. The developments in this direction are being watched with the greatest attention.

Coal Wholesalers, in Convention at Detroit, Chafe At Hoover Plan to Control Coal Market

Will Try Again to Reach Better Understanding with Secretary of Commerce—Rage at Each Other Over Cushing and Costs—Feel That Their Association Is Strengthening

BY E. W. DAVIDSON*

A GOOD deal of war in committee and an occasional outbreak of belligerent language in open session marked the sixth annual convention of the American Wholesale Coal Association in Detroit June 1 and 2. The big questions were: What should the association do about the Hoover plan of controlling the coal market, and should George H. Cushing, the active managing director, be continued at Washington. Both were live issues, to put it mildly. Much opinion was loosed throughout the sessions but it can hardly be said that either question was completely settled. Association men hardly knew what they could do about Mr. Hoover's apparent failure to put a wholesaler on his little "privy council" of coal men and his apparent failure to recognize that the wholesaler must make a small but clear profit if he is to stay in business. However a committee is to meet Mr. Hoover this week. The case of Cushing remained more or less on the lap of the gods at the end of the convention, though it is presumed that a majority of the new board of directors are friendly to the managing director.

One thing appeared sure during the convention: The bulk of the association is not going to let the organization die, in spite of the loss during the year of 194 members. A good deal of spirit was roused in the association over one issue or another and the majority of delegates recognized that there are troubles ahead and that in union there is protection for all. As Noah H. Swayne, 2d, one of the association's stalwarts, said after the convention was all over: "It seems as if every time we begin to weaken, the government or somebody does something that drives us to unite again." And so the association, with Seth W. Morton, of Albany, N. Y., as its new president and with a number of economies in mind for the future, may be getting its second—or sixth—wind as it starts its new year after having overspent itself by about \$11,000 in 1921.

OFFERS HIS BUSINESS OUTRIGHT TO COAL TRADE

At least one other feature made this convention notable. General J. B. Sanborn, of Chicago, who has spent forty-four years in the coal trade and who has conducted a credit service most of that time, astonished—not to say confounded—most of the association by offering to give his business outright to the coal trade. He proposed that it be conducted as a national credit service for coal shippers and coal producers. The convention thanked the general for his unusual offer and referred the matter to committee.

"I didn't expect them to do anything about it yet," said General Sanborn, "but the seed is planted. It may take two or three years for it to sprout. The plan is feasible and I hope some day it will be adopted. I will never sell my business, though I have lately had some excellent offers for it. I would much rather see it taken up by the coal trade co-operatively. If the coal trade doesn't want it, then when my active days end—pretty soon—I'll just close it up."

Naturally a great deal of discussion, both in session and out, centered on the present coal emergency and the itch of governmental fingers. Not much was said about the strike as such. But the majority of opinion was that the wholesaler is threatened with a rather battered and misshapen form of square deal in the Hoover market-control plan for the strike period. It would be fairly ac-

curate to say the wholesalers feel with their 1921 president, W. R. Coyle, of Bethlehem, Pa., that the present approach is wrong. With him, they size up the situation thus:

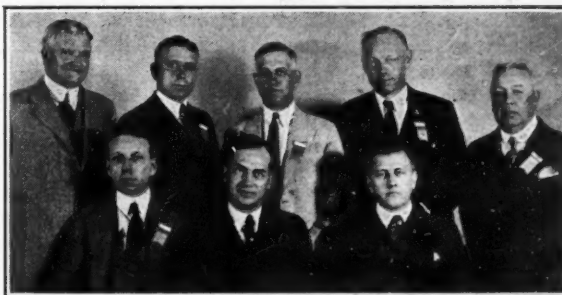
- (1) If you regulate price you reduce production.
- (2) Stimulate production and the price takes care of itself.
- (3) In times of emergency all persons should confine their inquiries and their dealings, so far as practicable, to their normal source of supply or to established known wholesalers in their own vicinity.
- (4) The best aid which the railroads can give will be found in the temporary suspension of prohibitive demurrage and reconsignment charges and the restoration of at least one free reconsignment at all established terminal yards.

DISCUSS HOOVER PLAN AND FUTURE OF ASSOCIATION

Much talk of both the Hoover plan and the future of the association which was heard Friday morning at the closing session of the convention resulted in a partial clearing of the atmosphere by the electric discharge method, but no definite action on either matter was taken beyond the adoption of a couple of rather general resolutions.

The question of where the coal wholesaler stands in the Hoover scheme of things is indistinct in the association's mind. Two of the officers of the association visited Secretary Hoover a week ago, making clear that wholesalers feel that they should be allowed to realize approximately 10 per cent above the mine price on all tonnage they handle, and that they should have a man on Mr. Hoover's "advisory council" of five. When they left they were under the impression that Mr. Hoover was in accord with their wishes. Press dispatches indicate they were in error. A member of the board of directors said on Thursday night that an exchange of telegrams took place Thursday between association officers and the Department of Commerce at Washington, indicating that Mr. Hoover felt that coal operators are going to "absorb selling costs" in the mine prices set by Mr. Hoover instead of allowing a definite profit for jobbers. Furthermore there appeared some doubt as to whether the wholesalers were to be represented on the "council." The final wire from Washington requested that the new officers send a delegation to visit Mr. Hoover about June 5. This the association decided to do.

In the telegraphic discussion with Mr. Hoover's depart-



PRESIDENT SETH W. MORTON AND SOME STALWARTS OF THE AMERICAN WHOLESALE COAL ASSOCIATION

Standing, left to right: C. L. Dering, retired vice-president and now a director; E. M. Platt, first president of the association; C. L. Couch, a past president; Noah Swayne, 2d, a past president, and H. J. Heywood, member of executive committee. Sitting, left to right: G. H. Merriweather, secretary-treasurer; Seth W. Morton, new president, and Jay W. Johns, new vice-president.

*Western editor, *Coal Age*.

ment Major Coyle tried to relieve the Secretary of Commerce of the impression that coal operators "always have absorbed a reasonable allowance for selling expense." He assured Mr. Hoover that operators never have done that.

At the Friday session Mr. Swayne took occasion to voice his personal code of business ethics for a trade situation such as that of the present, and was cordially applauded. Said he: "I think it right for me to buy coal for definite customers, paying whatever I have to pay, and selling at that price plus 10 per cent, but never to buy a ton for speculation."

RALLY TO GEORGE CUSHING'S DEFENCE

The difference of opinion in the association over continuance of the Washington office along the lines of past activity under the guidance of Managing Director Cushing broke into the open Friday morning. E. M. Platt, of Chicago, declared the association performs too valuable a service to be allowed to die, but that perhaps the dues should be lessened. "If we had the money we should continue the Washington office and its full functions," said he, "but if that work is too costly for us to bear, the time to correct our errors is now, not after it is too late."

J. W. Johns, vice-president, said there should be no reduction in dues. The association, said he, gives a coal wholesaler his only "business insurance" against undue government interference and other harassments, and it is worth a good deal more than the \$2 a week it costs Class A members. Mr. Weinhardt, of Grand Rapids; Mr. Martin, of Omaha; Mr. Taylor, of Morgantown, W. Va., and Mr. Ratterman, of Cincinnati, put their cities on record in favor of the retention of the Washington office and Mr. Cushing.

"I'm for Cushing," stated Mr. Dunn, of Detroit. "I'd rather be on a ship with a master and that is headed somewhere, than to be on an aimless drifter." He said the value of Mr. Cushing's services should not be measured by expense alone. Six thousand dollars was wasted fighting other people's battles in the recent Interstate Commerce Commission rate case, he said, but such mistakes cannot be charged to Mr. Cushing. He urged that the association quit fighting within itself and back up its representatives in Washington. "We once had 640 members when our business was endangered," said he, "and we'll have 640 again if the government hammers us too hard."

Mr. Cushing took the floor long enough to say that he believed the association's expenditures during the past year were \$11,000 above income, but that this did not presage ill for the coming year. About \$6,000 of it, spent on the rate case, was extraordinary and probably never will be duplicated, and the same can be said of the \$3,000 spent to oppose the Frelinghuysen bill. He added further that he had proposed two months ago that his own salary be cut \$3,000 from \$10,000, so that during the coming year, he thought, the association should at least break even.

Immediately after the last session of the convention the new board of directors went into executive session and stayed there continuously from 12:30 p.m. to 3 p.m. without stopping for luncheon. Much violent difference of opinion was freely expressed, but at the end no definite decisions were reported. The board is to meet again soon to decide what to do about the Washington office and the association's finances.

There was no open competition for any of the official positions in the association. Seth W. Morton, of the W. G. Morton Co., Albany, N. Y., was chosen president without the suggestion of another name. Jay W. Johns, of the Straub-Atkinson Coal & Coke Co., of Pittsburgh, Pa., was unanimously chosen vice-president after H. L. Forstbauer, of the Lake City Coal Co., of Cleveland, had withdrawn. G. H. Merriweather, of Chicago, was retained as secretary-treasurer.

This is the board of directors: R. S. Bain, of Cleveland, Ohio; C. A. Weinhardt, of Grand Rapids, Mich.; J. B. Ratterman, of Cincinnati, Ohio; W. H. Weller, of Birmingham, Ala.; John Cochran, of Indianapolis, Ind.; I. I. Sheehan, of Baltimore, Md.; C. F. Dunn, of Detroit, Mich.; G. H. Reeves, of Minneapolis, Minn.; C. W. Moss, of Buf-

falo, N. Y.; H. J. Heywood, of Toledo, Ohio; Clarence L. Clark, of New Haven, Conn.; W. E. McCurda, of Boston, Mass.; W. D. Eyre, of New York, N. Y.; George Schwartz, of Columbus, Ohio; W. J. Prescott, of Memphis, Tenn.; C. G. McGill, of Toronto, Can.; M. L. Taylor, of Morgantown, W. Va.; Louis Overholt, of Chicago, Ill.; R. H. Lee, of Kansas City, Mo.; J. F. Hershey, of Louisville, Ky.; C. L. Dering, of Chicago, Ill.; F. S. Morton, of Omaha, Neb., and Charles A. Owen, of New York, N. Y. Two are yet to be chosen.

Executive committee men to serve with the president and vice president are C. F. Dunn, H. J. Heywood, C. G. McGill and W. E. McCurda.

Enough keen humor to stimulate the risibles of a wooden Indian with a chipped nose made the convention banquet merry Thursday evening. About 200 men and women heard Edgar A. Guest, nationally known newspaper poet, read some of his "home-made" verse and enjoyed the wit of James Schermerhorn, once managing editor of a Detroit newspaper. Both men were capital entertainers. Noah H. Swayne, 2d, performed the more or less sacred duties of toastmaster with grace and good fun, changing the tone of the assemblage to the serious to dilate upon the unselfishness in which the American Wholesale Coal Association was conceived and born during the war.

"And it still serves unselfishly," he declared. "At every convention it has faced some emergency in that spirit. Just now some unthinking people talk of the discontinuance of the association. Perhaps we have another fight on our hands. If so, let 'em bring it on. We are ready. We'll make that fight while adhering to our firmly maintained policy: 'Service upon reasonable terms for the public good.'"

At the speakers' table with the toastmaster and speakers sat retiring President W. R. Coyle, Managing Director George H. Cushing, C. C. Corey, of Detroit, chairman of the convention committee, Executive Committeemen J. W. Johns of the Straub-Atkinson Coal & Coke Co., Pittsburgh, Pa., and H. J. Heywood of W. A. Gosline & Co., Toledo, Ohio, and James A. Ballard, of the Smet-Solvay Co., Detroit.

During the dinner there was some cheering for and friendly impromptu songs about both Managing Director Cushing and Toastmaster Swayne. Mr. Swayne is always popular at the conventions. He has an excellent singing voice and entertained with a recital in the music room for an hour before the banquet.

Invitations for the next convention were received from New York and Cincinnati and good naturedly extracted from Chicago.

New England's 1921-22 Bituminous Receipts Lowest of Any Recent Coal Year

FINAL returns collected by the Massachusetts Fuel Administration give the total quantity of anthracite received in New England in the coal year ended March 31, 1922, as 10,424,000 net tons, the Geological Survey reports.

Receipts of bituminous coal were 18,356,000 tons, the smallest in any recent year. A notable feature of the bituminous-coal trade for the year was the increasing percentage obtained by tide. Fifty-six per cent of the total receipts came by water from New York, Philadelphia, Baltimore and Hampton Roads, as against only 44 per cent the year before.

SUMMARY OF NEW ENGLAND COAL RECEIPTS. ()

SUMMARY OF NEW ENGLAND COAL RECEIPTS						
(In Net Tons)						
Anthracite						
Coal Year	Tide	Rail	Total	Per Cent Tide	Per Cent Rail	
1916-17	4,963,000	5,487,000	10,450,000	47	53	
1917-18	4,151,000	7,878,000	12,029,000	35	65	
1918-19	3,981,000	9,011,000	12,992,000	31	69	
1919-20	3,499,000	7,310,000	10,809,000	32	68	
1920-21	3,744,000	8,505,000	12,249,000	31	69	
1921-22	3,382,000	7,042,000	10,424,000	32	68	
Bituminous						
1916-17	13,707,000	9,606,000	23,313,000	59	41	
1917-18	12,253,000	11,123,000	23,376,000	52	48	
1918-19	15,085,000	10,208,000	25,293,000	60	40	
1919-20	9,092,000	9,997,000	19,089,000	48	52	
1920-21	9,673,000	12,469,000	22,142,000	44	56	
1921-22	10,261,000	8,095,000	18,356,000	56	44	

(a) Data furnished by courtesy of the Massachusetts Fuel Administrator.

The Weather Vane of Industry

News Notes Chronicling the Trend of Industrial Activities on Which Depends the Immediate and Future Market for Coal

STRIKING features brought out by figures relating to industrial conditions for the month of April as received by the Department of Commerce, were further big increases in building construction with attendant larger production of building materials and an increase of some 30 per cent in the production of automobiles. In many other lines the April figures did not show the advance over March conditions that might have been expected from the preceding month. April has been a month rather of assimilation and of adjustment of conditions for progress in later months.

It is very encouraging that business for the most part is advancing in this less spectacular but more substantial manner. The fact that prices have been relatively much more stable in recent months and that some increases are taking place in commodities which have been below the general level, indicates improved fundamental conditions.

Receipts of wool at Boston during April amounted to 34,194,000 lb., compared with nearly 40,000,000 lb. in March and 51,000,000 lb. in April last year.

The per cent of active hours for all classes of wool machinery was less than for the preceding month, while the activity of cotton spindles decreased from 7,779,000,000 hours in March to 6,636,000,000 hours in April. The average activity per spindle in place decreased from 211 to 180. These figures bear out the data on the smaller consumption of cotton by mills in April, as previously reported.

Exports of cotton cloth increased in April with a total of 51,615,000 sq.yd., compared with 48,406,000 in March. Silk imports remained stationary, while imports of burlap and fiber declined.

Production of sheet steel, as shown by association reports, increased from 68 per cent of capacity in March to 75.2 per cent in April. Shipments and unfilled orders also increased, while sales and unsold stocks declined. Exports of iron and steel showed a decrease of 10,000 tons from the March total.

The production of passenger automobiles as compiled from reports to the Bureau of the Census increased from 152,647 in March to 196,512 in April. This is an increase of nearly 30 per cent in the month and represents the largest output reported in any of the last 10 months for which these figures are available. Truck production also increased from 19,449 to 21,944 and again shows the maximum figure for any month reported.

Imports of hides and skins increased slightly, while the exports of leather declined. The exports of boots and shoes amounted to 463,000 pairs in April, compared with 455,000 pairs the month before. A year ago nearly three times as many boots and shoes were being exported each month.

Exports of wheat, including flour, were equal to 10,244,000 bushels in April, a decline of 4,000,000 bushels from the March total and less than half as much as in April last year. Corn exports, with a total of 18,817,000 bushels, showed a slight decrease from the record made in the preceding month.

The wholesale price index of the Department of Labor remained stationary at 152. Slight increases in farm products, fuels, metals, and chemicals, were offset by declines in other groups. The cost of living as reported by the National Industrial Conference Board also showed no change from the March figure.

Freight Loadings Continue to Gain

Loading of revenue freight during the week ended May 20 totaled 792,459 cars, compared with 777,359 during the preceding week, or an increase of 15,100 cars. This was an increase over the corresponding week last year of 21,468 cars, but a decrease of 69,615 compared with the corresponding week in 1920. Coal loadings amounted to 81,967 cars, a gain over the previous week of 2,797. This was, however, 78,665 under the corresponding week last year and 87,082 below the corresponding week two years ago. Coke loadings totaled 9,335 cars, 522 more than were loaded the week before.

On May 23 there were 504,702 freight cars idle because of business conditions, compared with 512,196 on May 15, or a decrease of 7,494 cars. Surplus coal cars numbered 208,691, a reduction since May 15 of 9,775. An increase of 256 cars, however, was reported in the number of surplus coke cars.

Structural Sales Near Capacity

Orders for fabricated structural steel placed during April were almost equal to the capacity of fabricating firms, according to reports made to the Department of Commerce by firms comprising two-thirds of the fabricating capacity of the United States. Sales reported during April amounted to 115,247 tons by 75 firms having a capacity of 116,916 tons, or at the rate of 99 per cent of capacity. At this rate, the total sales throughout the United States, based on a total capacity of 180,000 tons, were 177,600 tons in April. This compares with 139,300 tons reported for March by the Bridge Builders & Structural Society.

Minnesota Rail Mill to Open

The Minnesota Steel Co. will start operating its steel rail mill about the middle of this month, according to recent reports in the New York financial district. The mill is reported to be the most modern in the Northwest and is favorably situated for supplying the Middle Western, Northwestern and Pacific Coast railroads.

Rail Shops Resume June 5

Full force activities were resumed June 5 at the Ontario & Western locomotive department, Middletown, N. Y. Increasing need of motive power equipment to meet the demands of the increasing summer passenger traffic is stated as the reason. The locomotive department had been working with a greatly reduced force since April 7, when 272 employees of the department ceased work as a result of the curtailment of traffic by the strike of the coal miners.

Supreme Court Holds That Unions May Be Sued, but In Coronado Case Union Is Not Liable for Damages

IN a unanimous opinion delivered by Chief Justice Taft, June 5, the U. S. Supreme Court held that labor unions may be sued in federal courts for violation of law. The court reversed the Circuit Court of Appeals, Eighth Circuit, which gave treble damages, \$600,000 plus \$25,000 attorneys' fees, and \$125,000 interest, to the Coronado Coal Co. against the United Mine Workers, District 21 (Arkansas), for destruction of the coal company's property in Arkansas during a strike in 1914. The basis of the decision to set aside the damages was that the strike was a local issue and not a conspiracy by the organization as a whole to restrain commerce in violation of the law.

On the ground that there was nothing in the evidence to show that the International union or international board of the United Mine Workers had authorized the strike or taken any part in preparation for it or in its maintenance or had ratified it by paying any of the expenses, the court concluded that the International union and its officers should not have been held by the trial court as subject to joint liability with the district and local organizations and officers for participation in the conspiracy or for the destruction of property incident to the strike.

The authority placed by members of District No. 21 in their officers to order a strike, it was held, made the district organization responsible for any unlawful injuries inflicted during the conduct of the strike and made the fund accumulated for strike purposes by the district subject to the payment of any judgment which is recovered.

It was necessary, however, in order to hold District No. 21 liable in this case under the anti-trust act, to establish that the conspiracy to attack the Bache-Denman mines and stop non-union employment there was with intent to restrain interstate commerce, to monopolize it, and subject it to the control of the union, Chief Justice Taft stated.

While unincorporated labor organizations could be sued under the Sherman anti-trust law for triple damages for

losses to property caused by them, there was nothing in the evidence of the present case, it was declared, to show that the acts complained of were aimed by the labor unions to restrain interstate trade.

Pointing out that the United Mine Workers is admirably framed for unit action, that it is directed largely toward propaganda, and that most of its expenses are devoted to strikes, the court says labor organizations exceed corporations in unity of action. Pointing out various forms of state and federal legislation recognizing labor unions, the court holds "that the suable character of such an organization as a labor union has come to be recognized. We think that such organizations are suable in the federal courts for their acts and that funds accumulated to be expended in conducting strikes are subject to execution in suits for torts committed by such unions in strikes," the court says.

The court took occasion to define the extent to which Congress may legislate on coal, which is of timely interest in view of proposed regulation. The court said: "Coal mining is not interstate commerce, and the power of Congress does not extend to its regulation as such. The mining of coal is not interstate commerce nor does the fact that it is to be afterward shipped or used in interstate commerce make its production a part thereof. Obstruction to coal mining is not a direct obstruction to interstate commerce in coal, although it of course may affect it by reducing the amount of coal to be carried in that commerce. If Congress deems certain recurring practices, though not really part of interstate commerce, likely to obstruct, restrain or burden it, it has the power to subject them to national supervision and restraint. It has the power to punish conspiracies, in which such practices are part of the plan to hinder, restrain or monopolize interstate commerce. The intent to injure, obstruct or restrain interstate commerce must appear as an obvious consequence of what is to be done or be shown by direct evidence or other circumstances."

Plans for \$35,000,000 Coal Merger Said To Be Nearing Completion

STORIES of the contemplated merger of thirty independent coal companies in the Panhandle district of western Pennsylvania were revived last week through John A. Bell, Pittsburgh banker and chairman of the board of directors of the Carnegie Coal Co. "The merger may take place in a month or two," Mr. Bell said. The consolidation would bring under one corporation approximately 50,000 acres of coal land, most of which is undeveloped, and the corporation would have a capitalization of \$35,000,000. Mr. Bell stated that the deal had been under consideration for about six months, but that the time was not yet ripe for the announcement of the names of the companies involved. J. H. Sanford, president of the Carnegie Coal Co., and William Henderson, president of the Henderson Coal Co., also are named in connection with the proposed merger.

Coal Consumption by Utilities Falls to Lowest Level Since Last July

COAL consumed by public utility plants during April totaled 2,491,091 net tons, according to figures just published by the Geological Survey. This was less than the tonnage consumed by these plants during any month since July, 1921. During March the total fuel consumption was 2,722,952 tons; in February, 2,593,259; January, 2,953,540 and in December, 2,902,987 tons.

A comparison of the reduction in the average output of electricity in the important coal-producing states in April with the reduction in output of electricity for the entire United States in that month shows that the coal strike reduced the public-utility output of electricity in the coal-

mining states by about 4 per cent. The proportion of the total kilowatt-hours produced by water power increased steadily from 33.5 per cent in November to 40.6 per cent in April, while the average daily output in kilowatt-hours declined to 120,300,000 in April from a figure in excess of 123,000,000 during the preceding four months.

Coal Consumption by Roads Up in March; 3-Months' Total Less Than Year Ago

CONSUMPTION of coal by Class 1 railroads in March, 1922, reported by the Bureau of Statistics of the Interstate Commerce Commission, as charged to account 394, was 8,503,000 net tons, as compared with 7,711,000 tons in March, 1921. Including the equivalent coal tonnage for fuel oil consumed the coal consumption in road service was 9,293,029 and 8,470,575 tons respectively. Although the figures for March of this year show a considerable gain as compared with 1921, consumption of coal charged to account 394 for the first quarter of 1922 was less than for the corresponding period a year ago, the figures being 24,436,000 tons, against 24,611,000 tons in 1921. Including the equivalent coal tonnage for fuel oil consumed the coal used in road service was 26,749,260 tons and 26,969,315 tons respectively.

With the heavier March consumption the roads have made a considerable saving in their fuel bill, as the cost of coal per net ton is given as \$3.49 this year, which is more than a dollar below March, 1921, when the cost per ton was \$4.55. For the first quarter of 1922 the cost was \$3.56 per ton; in 1921 it was \$4.58. During the first quarter of 1922 the net revenue and non-revenue freight ton-miles amounted to 88,000,000, as compared with 82,000,000 last year.

Epoch in Industrial Progress Seen in Co-operation in Hoover Plan to Keep Coal Prices at Fair Level

BY PAUL WOOTON

Washington Correspondent of *Coal Age*

NEW proof of the ability of Herbert Hoover, Secretary of Commerce, to get results is had in his handling of the coal-price situation. He has handled it in a way which is meeting with the approval of 99 per cent of the operators, in spite of the fact that he is preventing them from recouping the losses most of them have sustained in the sale of their coal during the past year.

When the operators gathered for the general price conference on May 31 there was a minority among them which did not look with favor on the plan of applying the Garfield scale to their free coal when most of their output is moving on low-priced contracts. The opposition, however, was won over completely by Mr. Hoover's remarks at the opening of the conference. It is believed that the policy of co-operation between the government and industry, outlined in that speech, marks an epoch in industrial progress. The full stenographic record of Mr. Hoover's remarks follows:

"I have been asked by the President to call this conference for the purpose of consultation with you as to what measures we can properly take to restrain runaway prices, profiteering and speculation in coal during the present coal strike. This is not to be a discussion of the strike nor of wage questions but purely a discussion between the Secretary of Commerce and the producing operators upon the sole question of price and distribution of coal.

"You are aware of the facts in the present situation as well as I. At the present moment bituminous coal is being produced at the rate, approximately, of five million tons a week. Consumption is somewhere from eight million to eight and one-half million tons a week. We are drawing upon stocks at the rate of three million to three and a half million tons a week. Production will probably increase slightly as time goes on. But the time has arrived when those unwise virgins who did not accept the recommendations I repeatedly made as to stocking themselves with coal, find themselves compelled to go into the market. Distribution is greatly disturbed from its normal channels. There is a tendency to multiply bidding from the public and thus to force up the price of coal against itself.

"On the last occasion when there was disturbance in coal production, prices rose at some mines from \$6 to as high as \$10 and \$12 and even \$15 a ton for spot coal at the mine, and all holders of coal raised their prices accordingly. Such a condition represents a loss on spot coal to the public running into millions of dollars a week. It gives to the industry a color of profiteering, and it is my distinct recollection of that period that the charge given the operator was not only laid against many unjustly but that the vast majority of operators considered that in its reactions it was the most disastrous thing that had happened to them.

"It is utterly impossible for each operator to act alone. Many hundreds of operators during that occasion held to their price list despite the offers that were made to them and despite the fact that coal which they placed on board cars at a comparatively low price was sold under their eyes at double and treble the price at which they had turned it out. I had felt that before such an occasion arises again it was desirable that we take such steps as we can take to prevent its recurrence.

"A week ago I called a preliminary conference of some thirty or forty coal operators to determine what steps might be taken, in their view, and to test out the disposition of producing operators in this matter. Those gentlemen were unanimous and emphatic in an expression of the necessity that restraint of some kind should be placed upon the existing situation, not only in the interest of the public but in the interest of the operators and the fundamental interest of the whole industry. Upon their suggestion the President directed me to call this larger conference.

"The result of the last conference, a week ago, has been to put a check on the daily rise in price that was in process, and prices have receded from 50c. to \$1 a ton nearly throughout the country. Prices today vary somewhere from \$2.50 to \$3.50 a ton at the mines in most districts, although there are one or two districts that are still over the \$4 level.

"What we are interested in—what the public is interested in—is not the question of cents; it is the question of dollars. With the unrestrained operation of the law of supply and demand in a situation of this kind the price of spot coal might easily be carried to \$12 or \$15 a ton at the mine, and any such situation as that, I believe you will agree with me, must be prevented if we can.

"I have some little knowledge, perhaps, of the situation in the coal industry as it has existed during the past twelve months. I am fully aware that the industry as a whole has operated without profit, and perhaps even at a loss; that prices to the public have been unduly low so far as the mine operator is concerned; that differences in price of 10c. or 15c. or 20c. a ton make the difference between profit and loss in coal production. The public does not realize, I believe, that these are the margins for which the operator must contend. With high freight rates, with high cost of retail distribution the public has little appreciation of the secondary part that prices at the mines pay in the ultimate cost to the individual of coal put in his cellar. Nevertheless the operator has, in the public mind, the primary responsibility for the price of coal, and it is with a view to summoning that responsibility, in the public interest and in the interest of the industry, that we are meeting here at this moment.

THINGS THE PUBLIC SHOULD UNDERSTAND

"There are some things that the public should understand in respect of this problem:

"(1) That it is a problem of the most stupendous difficulty, that it is easy to denounce profiteering, in fact it is the favorite sport.

"(2) That the vast majority of the coal operators, out of their own interest and out of their sense of public interest, do not wish profiteering in coal.

"(3) That where profiteering begins and ends is not a question of demagogic statement; it is a question as to a definite fair price. There is no use of arguing theories when it comes to determine what must be done in a practical world, but it becomes a problem of determining the actual basis upon which fair transactions should take place if actual constructive work is to be done in the situation.

"(4) What a fair price may be depends upon conditions in each district and varies not only with each district but with different mines in each district.

"(5) That the majority of the coal is sold in contracts established before the strike and that price fluctuation refers only to spot or free coal.

"(6) The public should understand that there is not a shred of law or authority to either determine or enforce a fair price; that there is not a single shred of law on the statute books of the United States Government in prevention of profiteering or anything of that character.

"(7) That the law itself prohibits coal operators agreeing among themselves as to what a fair price would be, even if the operators should place that fair price below cost of production. We may as well face the fact that a combination in the public interest is just as illegal as one against the public interest. Without entering into the merits or demerits of the local situation that is the actual case.

"In times like these, in emergencies of this character, someone has got to take the responsibility, someone must

take the leadership and say what is fair. I do not believe that men deserve to hold public office unless they are prepared to accept the responsibilities that arise in emergencies.

"I, therefore, am not going to shirk this responsibility by asking you to enter into any agreement or combination among yourselves to restrain trade or prices or to do anything else that is wrong in law, whether it is in the public benefit or not. I propose to inquire, with your co-operation, as to the situation in the various districts; I propose to consult with you and to co-operate with you; I am going to take the responsibility upon my own back of saying what is fair, and I am going to ask every individual operator as a public service to adhere to such basis in his district, and that is to be a moral agreement between him and me. If he should fail to keep that agreement it will be between himself and his conscience. I may have remarks to make about it but I have no power to enforce it.

"I have no desire to assume unnecessary responsibilities, responsibilities that are bound to carry unusual loads of criticism; but there is a question here of protecting the public from losses that might aggregate \$15,000,000 or \$25,000,000 a week; aye, there is even a greater responsibility than that, and that is to save the business men of the United States from undeserved criticism by reason of being thrust in a position that they cannot themselves alone prevent.

"There is no question in mind as to the high sense of public service among the business men of the United States; that they want above all things not only to maintain but to demonstrate their right to esteem in the community, and I would be a failure as Secretary of Commerce if in representing these men I did not give opportunity to make such demonstration and to offer such public service. I am, therefore, suggesting to you a co-operation between each of you individually and the Secretary of Commerce.

PRELIMINARY PLAN ELICITS ADVERSE CRITICISM

"Last week we prepared, after considerable discussion, a preliminary plan, a plan that I have no doubt would have been effective. That plan, however, has been criticised in that it might contain elements of restraint of trade by co-ordinate action between yourselves. I will not ask you to enter into any plan that might be subject to that suspicion, even though it be in public interest. The plan proposed then would be more effective than that which I now have to propose. The plan I propose here depends solely upon moral forces and good will.

"It becomes necessary, then, that I should propose to you for discussion some alternative to that plan that will free it absolutely from any taint of suspicion or criticism as a conspiracy in law to restrain trade. In doing so I would like to make the emphatic statement to the public that the administration is here seeking co-operation of each individual coal operator in the public interest; that if such co-operation fails it will not be a failure of the administrative officials. I am confident that the vast majority will adhere to the plan proposed. If it won't work in a minority it will be a failure in authority of administrative officials. But I do not believe we will fail; in fact, I believe that here will be offered an opportunity to the business men to demonstrate that moral forces can be established that will prove that the arm of the law is unnecessary in the matter of protection of the public interest.

"Now, gentlemen, we are all busy people and I would like to make one or two propositions to you for your views:

"(1) That the Garfield prices for run-of-mine coal should be the basis for computing sales prices, with such adjustments as are necessary to include the wholesale selling costs, changed conditions at the mines, and other factors that will be fair to the public and to the operators and will maintain production of coal. Any agreement to adhere to this is a moral agreement between each individual operator and myself.

"I know that there is some objection, and some rightful objection, to using the Garfield prices as a base. On the other hand, we have no time, we have no machinery for determining what is detailed right or wrong in the matter of price. The Garfield prices were the result of experience

extending over a considerable period of time and an elaborate series of investigations, and it is much more easy, it is much more facile, and much more practical to say broadly what are the necessary changes to be made in such basis than to go out and endeavor to establish a new base at this moment.

"We know, approximately at least, the changes in wage levels. We know, approximately, those districts where the Garfield prices proved to be unfair. We know the changes that were proposed by the old Fuel Administration in those prices had that work continued. We know that a large proportion of the coal is sold on contract at prices below the Garfield levels. We know that this problem is a problem of spot coal alone. We know many of the factors that have entered into the question. The public is not interested in the question of cents; the public is interested in the question of dollars. Therefore my feeling is that we can arrive quickly at some notion of a fair price which I can state after discussion with you as to these changed conditions, whereas otherwise we would be at sea for weeks.

"(2) My suggestion is that each district should today nominate to the Secretary of Commerce a committee of the district to advise with him as to the conditions that bear upon the Garfield level and upon which I may form some judgment as to a fair price for the district.

"(3) After we have made this primary determination these committees should continue and should report to me any unfair prices in their respective districts, and should act on my behalf and as I may direct them to do in individual cases that may arise in their respective districts.

COMMITTEE TO ACT AS A MORAL FORCE

"In other words, the latter part of the machinery is altered to the extent that I wish to appoint a committee in each district to represent me purely in the capacity of a moral force in securing a fair price that I must take the responsibility of stating after I shall have learned as well as I can the conditions in each district.

"The whole of this is purely temporary expedient during this strike; I do not know how long the situation will last; it may be months for all that I know. I should have been glad to propose to you machinery that would relieve me of this major responsibility, of machinery that would be absolute, but I cannot do so without imposing upon you certain responsibilities and risks that I have no right to ask you to take.

"I do not ask you to vote or take any collective responsibility on this proposition. I wish your individual views. This is a transaction between me and each individual operator. If anybody is to be called into question for this agreement it is I alone and I will stand it. I shall be better able to judge the situation when I have had your views.

"I will now call on some of those present for discussion. I would like to call upon all of you but it happens I do not enjoy your personal acquaintance and therefore I may not call upon some who will be able to give us valuable suggestions. I first call upon Mr. Ogle, the president of the National Coal Association."

Mr. Ogle expressed the opinion that every one of the operators who had assembled would pledge his individual support in such co-operation. He took occasion, however, to point out that "the Garfield price applied to all coal, contract and spot, and for that reason it is only fair in determining the price of spot coal that the average realization should be taken into consideration.

"We all welcome the opportunity, Mr. Secretary, that you have given us to demonstrate that the coal industry can and does recognize the responsibility of public service, and that we can of ourselves work out our own problems, in co-operation with you, so that at the end of this strike you can say to us and to the coal industry in general that it has performed its duty."

J. G. Bradley drew a round of applause when he gloried in the fact that he is a non-union operator, independent of labor domination. He declared, however, that the industry needs the protection of a man like Secretary Hoover when public opinion has been inflamed "by those who are trying to create a labor monopoly in our industry, trying to

create a coal panic, and trying to put every fair coal operator 'in bad.' He urged the operators to put a will behind the Hoover program and make it a go.

The service being performed by the Secretary of Commerce was referred to by D. B. Wentz, when he addressed the assembled operators, as follows: "This is the third emergency in coal in the last five years. I wish to bring it forcibly to the attention of operators that this is the first occasion when the administration has said to the coal operators of the United States: 'We want to help you take care of this thing. This is your affair but we want to help you. We will take the responsibility of helping you.'"

At the close of the general conference Secretary Hoover designated a committee of five to act as his immediate advisers. He selected the following to serve on that committee: A. M. Ogle, president of the National Coal Association; C. E. Bockus, president, Clinchfield Coal Corporation; A. H. Holbrook, acting director, U. S. Bureau of Mines; George Otis Smith, director, U. S. Geological Survey, and F. R. Wadleigh, head of the coal division of the Department of Commerce.

On the day following the meeting, Secretary Hoover authorized a statement, in part as follows:

"It should be understood that the whole object of the administration's interest in coal prices is to protect the consumer by indicating the maximum price that would be fair for spot coal during the temporary period of the strike, and by doing so, to protect that great group of operators who do not wish to take advantage of the present situation.

"In order to prevent the resale of coal for speculative purposes it is most desirable in the interest of the consumer, operator and wholesaler that the operators and dealers should insist upon knowing that purchases are on behalf of a definite consumer.

"Every consumer who is interested in knowing that he gets a square deal can easily check the freight rates, can compare them with the maximum price, can inquire from his dealer whether he is buying contract coal, and at what rate, and can make proper allowances for retail distribution. If consumers are unwilling to take this degree of interest in negotiating for coal it is a certainty that no one can help them. I believe the vast majority of operators, wholesalers and retail dealers sincerely wish that this difficult occasion shall pass by without any rightful criticism of their conduct anywhere along the line. I regret that a small minority have refused to co-operate and are demanding higher prices. The government has no authority in the matter, for this is purely a moral question and one of co-operation. The consumers who are not treated fairly may appeal to this department in Washington and their case will be inquired into."

Charges Vintondale Mine Police Abrogate Rights of Free Speech and Assemblage

FOLLOWING a trip to the Pennsylvania coal fields made late in May by A. G. Hays, a New York attorney, and members of a party sent by the American Civil Liberties Union to test the rights of free speech and free assemblage, Mr. Hays has instituted proceedings against eight coal and iron police and coal company officials at Vintondale, Pa. The Vinton Colliery Co., of Vintondale, is the defendant in the suit prepared by Mr. Hays, which is for "assault, battery and false arrest" on behalf of himself and members of his party, who are alleged to have been attacked by coal and iron police in Vintondale on May 27.

Mr. Hays states that on their arrival in that town for the purpose of holding a meeting to test the rights of free speech they were ridden down by armed guards, who ordered them to leave town immediately. They found Vintondale an armed camp with the company police mounted and heavily armed, permitting no one to congregate on the streets. On returning from a nearby town armed with warrants for the arrest of the policemen Mr. Hays was arrested on the charge of trespassing on the coal company's property.

Roger Baldwin, director of the American Civil Liberties Union, says that the co-operation of Samuel Untermyer,

prominent New York attorney, has been obtained and that the union will take every legal step to bring about a change of what is described as "well-nigh incredible conditions in the Pennsylvania coal fields."

L. I. Arbogast, Harry McArdle, John Butalli, James Dempsey and Richard Esaias, employees of the company, waived a hearing before Justice of the Peace Robert Harnish at Nant-y-Glo on June 1, on the charges preferred by Mr. Hays. All entered bonds in the sum of \$500 for their appearance in the Cambria County Court.

It is stated that injunction proceedings also will be started against the operators and their police "to restrain them from interfering with access to Vintondale and from breaking up proper assemblage and restraining freedom of speech."

The president of the coal company, Clarence M. Schwerin, with offices in New York, has taken issue with the union and says he will take the case to the Supreme Court if necessary.

Senate Directs Secretary Hoover to Make Inquiry in Coal Strike

AN echo of the Hoover coal-price regulation conference was heard in the Senate when that body adopted a resolution presented by Senator Walsh, of Massachusetts, calling on the Secretary of Commerce for detailed information in respect to coal supplies and prices. Senator Frelinghuysen, of New Jersey, took occasion to remind the Senate that it had pending for over a year on its calendar his coal-stabilization bill and that had it been acted on the Senate would now have the information on which to base any action it might desire to take in connection with the strike.

In the House Representative Bland, of Indiana, is seeking action on his bill to establish a coal-investigation agency, having introduced a resolution, which has been referred to the Rules Committee, seeking a special rule for consideration of the bill by the House.

The Walsh resolution recites that as a result of the strike of bituminous-coal miners, consumption of bituminous coal is exceeding the production and the available surface reserve is being rapidly exhausted: that an adequate supply of bituminous coal at reasonable prices is vital to the domestic and industrial welfare of the nation, and refers to the fact that the Secretary of Commerce has been "negotiating with certain coal operators for voluntary agreement to fix prices during the pending emergency."

The resolution asks the Secretary of Commerce to furnish the Senate at the earliest moment all available facts relating to the following:

The present supply of mined bituminous coal.

The average weekly production and consumption of such coal since April 1, 1922.

The amount of bituminous coal estimated to be necessary for all uses in the United States until May 1, 1923.

The effect of the strike upon present coal prices and the probable effect upon such prices if settlement of the strike is not reached before Sept. 1.

What action, if any, has been taken by the United States, through government agencies, to terminate the strike.

What action, if any, has been taken by the United States to protect consumers of coal from paying exorbitant prices by reason of curtailment of production.

CHAIRMEN OF COMMITTEES of the National Coal Association, to serve for the next twelve months, have been selected as follows: Cost Accounting, T. T. Brewster, president Mount Olive & Staunton Coal Co., St. Louis; Statistical, F. C. Honnold, secretary Illinois Coal Operators' Association, Chicago; Membership, Michael Gal'agher, general manager M. A. Hanna & Co., Cleveland; Finance, J. J. Tierney, vice-president and general manager Crozer Pocahontas Co., Philadelphia; Publicity, C. E. Bockus, president Clinchfield Coal Corporation, New York City; Government Relations, J. G. Bradley, president Ella River Coal & Lumber Co., Dundon, W. Va.; Railroad Relations, E. C. Mahan, Southern Coal & Coke Co., Knoxville, Tenn.; Foreign, F. W. Wilshire, vice-president Consolidation Coal Co., New York.

Ninth Week of the Coal Strike

EDITORIAL REVIEW

PARTICULAR significance attaches to reported statements of union officials to the effect that the end of the bituminous strike is near. William Petry, of Charleston, W. Va., vice president of District 17, United Mine Workers of America, is authority for the statement that the strike will be brought to an end in less than thirty days. Speaking at Fairmont on June 1 Petry said: "I have the assurance of official heads of the organization that a meeting of the coal operators and the miners' officials will be held not later than June 15, which means the termination of the present industrial struggle. I believe this conference will pave the way for negotiations in the outlying districts, including the northern West Virginia fields, and the possibility of a settlement here."

P. T. Fagan, vice-president of the United Mine Workers of America, in an address at Pittsburgh, Pa., June 4, to nearly a thousand miners from Turtle Creek, Sandy Creek, North Bessemer, Plum Creek, Hays, Renton and Lincoln Place, declared that every indication was toward a speedy settlement of the strike, especially as controversies regarding soft-coal prices and the alleged excessive prices asked by the operators had weakened the cause of the producers to such an extent that the government was now taking a serious interest in the lockout. He asserted that the strike would be over before July and as far as the miners are concerned the worst of the trouble was over.

As against these signs of weakening on the part of the union, important because coming from officials of the scale committees, was the trip to Washington of three operators from Cleveland. S. Purseglove, Cleveland & Morgantown Coal Co.; F. E. Taplin, Cleveland & Western Coal Co., and E. H. Gilbert, Gilbert-Davis Coal Co., called on Secretary Davis on Monday, June 5, presumably to discuss the possibility of an early settlement with the miners. Officials in Washington attach no significance to the conference, as these men represent no one but themselves, it is understood, and have no authority from any scale committee.

Having no strike developments in their own fields, Illinois operators view with interest the efforts of these Eastern operators to talk with Secretary Davis. Dr. F. C. Honnold, secretary-treasurer of the Illinois Coal Operators' Association, issued a statement saying the association knew nothing of the Eastern plan for peace and that operators in Illinois have been expecting mines in the East formerly union to reopen on a non-union basis. Since unions still refuse local conferences in Illinois this cannot be done because of legal obstacles against hiring men outside of unions. It had been the widespread hope in districts outside the Central Competitive Field, reads the statement, that the policy of the national representatives of the mine workers might be changed and permit of negotiations by local districts. That such policy remains unchanged may mean universal repudiation of any further effort to bargain collectively with the miners, as in times past.

The price situation remains easy. The average is below the Hoover prices and the Secretary of Commerce is following up his conference with operators by meeting with retailers and jobbers. On Monday, June 5, the retail coal dealers of the country met with Mr. Hoover and assured the government of their desire to keep down coal prices during the present situation. They stated that their stocks had been rapidly depleted since the strike but that they had not advanced the price because of the strike. Secretary Hoover opposed selling coal at a replacement value, contending that it should be sold at a reasonable profit above that at which it was purchased. The wholesalers and retailers will appoint a representative to Mr. Hoover's advisory committee to work with the government in keeping down coal prices.

The drift back to work continues in the non-union Connellsville coke region. The two Alicia mines of the Pittsburgh Steel Co. are raising a little coal and at Alicia No. 1 plant fifty ovens have been blown in. The Reliance Coal & Coke Co., at Denbo, has increased its output of coal dur-

ing the past week from one car a day to five cars a day. The Republic Iron & Steel Co. has started the Bowwood mine with seventeen miners. The H. C. Frick Coke Co. started the Kyle plant last week with about 20 per cent working force and slightly increased the force at the York Run plant.

Anthracite Operators Propose Arbitration; "Suspension" May Be Declared a Strike

SUSPENSION of mining operations in the anthracite fields has entered upon its third month with prospects of settlement apparently still far away. There were strong indications during the past week that the so-called suspension would be declared a strike by the union officials, which some observers declared would mean the withdrawing from the mines of those men, such as pump runners, who had been left there to protect the property.

The first conference of the joint subcommittee of operators' and mine workers' representatives for the week was held on Friday, June 2, when the operators' committee presented its reply to the miners' refusal to consider the counter demands of the employers.

The reply of the operators was as follows:

"You have stated to us, supplementing your letter of May 28, that further negotiation between us would be fruitless unless we were willing favorably to consider your demands for a large increase of wages, the unreasonableness of which we have endeavored to show you. You have refused at the same time even to discuss our counter-proposals.

"In view of these facts we are faced with the alternative of either allowing the present suspension of operations to continue indefinitely or finding a method of settlement of our differences other than by direct negotiation.

"We fully realize our responsibilities to all concerned, and we have endeavored in every reasonable way to settle the difference between us by honest argument in accordance with the directions of the joint conference of operators and miners.

"We deeply regret the failure to agree. We also deeply deplore the present suspension of operations, which you ordered without previous notice to us at the very outset of negotiations, and which is bringing distress to those dependent upon the industry.

"This condition must not be allowed to continue if there is any feasible means of preventing it. It is the plain duty of both of us to find such a means.

"In view, therefore, of the situation which now exists, we propose that the President of the United States be requested to appoint a commission or tribunal to ascertain and consider all the facts and determine the questions concerning wages and conditions of employment at issue between us, said commission or tribunal to find a practical method by which prompt operation of the mines may be resumed pending its ultimate decision, and also to seek and recommend a method by which future suspensions or strikes may be as far as possible, avoided.

"In behalf of the anthracite operators whom we represent, and for whom we speak, we herewith agree to abide by and faithfully carry out the decision or award of the commission or tribunal so to be appointed by the President of the United States."

The statement was addressed to John L. Lewis, International president of the United Mine Workers, and was signed by T. D. Warriner, W. J. Richards, W. J. Connell and W. W. Inglis.

Philip Murray, vice-president of the United Mine Workers, on his return from a visit to John L. Lewis, is reported to have said to friends that he found Mr. Lewis not averse to arbitration but ready to demand that the body to whom the question is entrusted be instructed not to bring in a report calling for a reduction in wage. Mr. Lewis took exception to the indefiniteness of the second

reply of the anthracite operators and to the fact that therein they made no reference to the size and personnel of the proposed arbitral committee. The three district presidents of the anthracite region met on June 6 with Philip Murray to prepare a reply to the operators.

The next conference between the subcommittee of operators and miners will be held at the call of the chair.

The newly organized civic body known as the Public Committee on the Coal Strike has taken a hand in the situation and will endeavor to interest the public. Its first meeting was held on June 1 in the Engineering Societies Building, 29 West 39th Street, which was attended by representatives of the miners, who told the committee that their co-operation in the settlement of the controversy was welcome. Another meeting was scheduled for June 6.

The committee is composed of Frank Pattison, an engineer, of 1182 Broadway; Norman Hapgood, editor; Morris L. Ernst, a lawyer of 7 Dey Street; the Rev. J. Howard Melish of the Holy Trinity Church, Brooklyn, and Frank H. Somer, dean of the New York University law school.

Indiana Strikers Demand That Lewis Call Out Union Miners in Kentucky

COAL miners on strike in the Evansville (Ind.) field have been called to meet soon at Boonville, Ind., to take further action regarding a demand sent recently to John L. Lewis, international president of the United Mine Workers, to call out union miners who are working in Kentucky. It is expected that several hundred miners will attend. Indiana miners assert that many of their number have transferred their memberships to locals in Kentucky so as to work in the mines in that state. It also was pointed out that many of the Kentucky mines now are working three shifts when they should be working only one. A large quantity of union-mined coal is being shipped from Kentucky through Indiana to Chicago and the Northwest.

Conciliation Board Suggests 20 Per Cent Cut for Coal Miners of Eastern Canada

A 20-per cent reduction in the wages of mine workers employed by the British Empire Steel Corporation and its subsidiaries was recommended June 5 in a majority report of a conciliation board at the close of an investigation of the dispute between the workers and the operators.

The majority report, signed by D'Arcy Scott, of Ottawa, chairman, and John E. Moore, of St. John, N. B., recommended that \$3 a day minimum for miners over 18, working by the day, be adopted.

A minority report, submitted by the miners' representative, recommended an increase in pay of men working by the day from \$2.83 a day to \$3.45. It also recommended that contract rates at present in force be increased 18½ per cent.

I. D. MacDougall was the third member of the board, representing the miners. The board was appointed by James Murdoch, Minister of Labor.

OHIO STRIPPING OPERATORS SEEK INJUNCTION—The hearing on the injunction suit brought by a number of stripping operators in Jefferson County, Ohio, to restrain union miners from interfering with their workmen was heard before Judge Sater in Federal Court at Columbus, Ohio, June 1. Previously a temporary restraining order had been issued. The suit was brought by the Harmon Creek Coal Co., Penova Coal Co., Tasca Coal Co., Wayne Coal Co. and the United Coal Mines, Inc., against officers of the state and subdistrict organizations as well as officers and members of the local unions in Jefferson County. No decision had been announced by June 1.

THE SENG CREEK COAL Co. and the Mordue Collieries Co., with mines on Coal River, in the Kanawha field, obtained from Judge McClintic, of the U. S. District Court for the southern district of West Virginia, a temporary restraining order which prohibits international and district officers and members of the United Mine Workers from organizing or attempting to organize the employees of the two companies or from interfering with such employees while at work.

No Indications of Early Settlement in Crow's Nest Pass; Company Stands Pat

THE situation in the Crow's Nest Pass coal field remains unchanged. There are no indications that an early settlement of the strike will be affected. Although the Conciliation Board is at work it would appear from reports that little progress is being made toward arriving at a basis for settlement. Meanwhile the men seem to be finding employment elsewhere and the company does not seem to be disposed to make any concessions.

W. R. Wilson, president of the Crow's Nest Pass Coal Co., in giving evidence before the board stated that since 1903 his company had lost through strike and lockouts \$3,429,045. He stated further that his company had paid an average yearly return of only 2.46 per cent since 1910 on its investment of \$6,200,000. In 1921 his company paid contract miners an average of \$9.13 per day and day miners an average of \$7.75, the former being an increase of 125.5 and the latter of 152.5 per cent compared with the wage rate of 1910.

Dissolution Decree Is Modified to Sever Relations of Reading Subsidiaries

ACTING on appeals of minority stockholders, the U. S. Supreme Court, in a decision delivered May 29 by Chief Justice Taft, ordered modifications in the decree in the Reading case designed to sever completely the relations between the Reading Railway Co., the Reading Company and the Reading Coal & Iron Co. The U. S. District Court for the southern district of New York was ordered to hear all interested parties and to take such steps as are necessary to break up completely the monopoly alleged by the court to exist. The court permanently enjoins any relations between the companies, authorizes the Attorney General and his successors to watch closely the relations between the companies and announces that it will retain a large control over the decree with power to assure its continued efficacy by summary remedy of contempt. "With these restrictive provisions and modifications of the plan the court thinks the independence of the four companies will be fully achieved," said Justice Taft.

All stockholders of the coal company, upon receiving and registering their stock in the new coal company authorized under the decree, are required to make affidavit that they have no stock ownership in the Reading Company, and are not acting or representing anyone who is. The merged Reading Company is required to register transfers of shares of its stock in the names only of persons who make affidavit that they are not stockholders, registered or actual, in either the new or old coal company. The Reading Company is perpetually enjoined from acquiring, holding or voting or in any manner acting as owner of any shares of the new coal company. The new coal company and all persons acting for it are enjoined from acquiring or voting any stock of the Reading Company.

476,400 Tons of River Coal Reclaimed in Anthracite Field During 1921

A TOTAL of 476,400 tons of river coal, having a value of \$697,200, was reclaimed from the rivers and streams of Pennsylvania passing through the hard coal fields in 1921, according to a summary of the river coal industry recently made public by Secretary of Internal Affairs James F. Woodward.

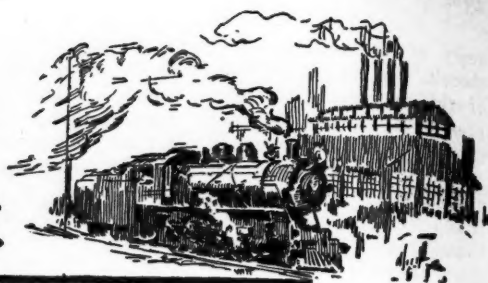
Coal was reclaimed from the Susquehanna, Schuylkill and Lehigh rivers in Berks, Columbia, Dauphin, Luzerne, Montour, Northumberland and Schuylkill counties.

There were 49 concerns engaged in reclaiming coal from streams and these gave employment during the year to 338 persons. The wages of the employees totaled \$250,000. The capital invested in the industry amounted to \$954,600.

In 1920 there were 551,100 tons of coal reclaimed, which had a value of \$844,700.



Production and the Market



Weekly Review

WITH non-union production rising and the freight reduction in sight consumers are reluctant to purchase any coal except for emergency needs and prices have dropped still further below the level set by Mr. Hoover last week as representing a figure within reason for all concerned. Coal Age Index of spot bituminous prices stands at 255 on June 5, a drop of 14 points as compared with 269 on May 29.

Buyers' price views are very definite and dictate current sales in nearly every instance. The purchaser of fuel has found that a withdrawal from competitive bidding has lowered spot quotations, and with the prospect of a real shortage remote is reluctant to buy.

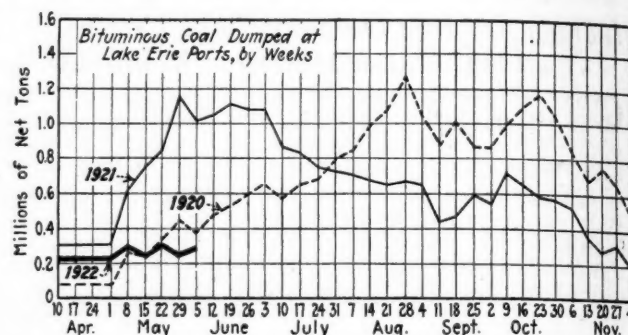
SECRETARY HOOVER FIXES FAIR MAXIMUM PRICES

Following a consultation of operators and Secretary Hoover in Washington, May 31, the Secretary announced that \$3.50 was considered a fair maximum spot price for mine run coal from southern West Virginia, Virginia, eastern Kentucky and Tennessee. Alabama prices were considered fair at \$2.20@2.60, this being 25c. under the Garfield price, the same differential to exist on other coal mined in that state.

Western Kentucky prices were not announced as the conferees were unable to agree as to what would constitute a fair price. To the \$4.25 price asked by the operators Mr. Hoover could not agree. Connellsville and other Pennsylvania coal operators want a maximum price of \$4.50 per ton; the additional dollar above the fixed price for other regions being needed to defray the cost of mine guards during the strike, and also to compensate for short running time. They are meeting with Secretary Hoover this week to discuss price fixing for this region. In announcing the mine prices for the various sections Mr. Hoover states that "the operators absorb in these prices a reasonable selling expense."

Quotations on West Virginia steam coals show weakness in all markets. Domestic is held firmly, but in

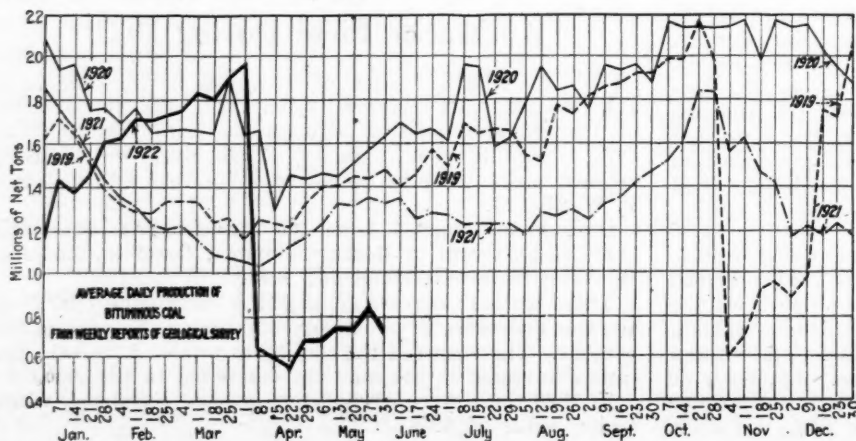
some cases industrial fuels are down to \$2.50, a full dollar under the Hoover figure. Southern coals are piling up at the Roads and the majority of the coast-wise business is confined to contract. New England presents a sluggish market outlook for June, for, as



in other sections, buyers feel that lower freights are well worth waiting for. Prices are firmer in the Midwest region, where western Kentucky stands as the shining exception to the other fields, with prices well up to \$3.50, as compared with her slump to less than \$3.10 late in May. The new railroad buying pool is trimming quotations at every opportunity and is causing much resentment among the coal trade by even canceling orders to get the benefit of a lower price.

In the North Atlantic centers, such as Philadelphia, Baltimore and New York, receipts are gaining over current demand. Southern coals, by water, have been quoted lower but the violent price drop of two weeks ago has been checked. Pennsylvania coals, at this writing excluded from Mr. Hoover's "price list," are advancing again, although they are not easily sold when the quotation passes the \$3.50-mark.

The Northwestern market is picking up. Industry is improving and the crop outlook is better. In addition there is a growing tendency to store coal away, as dock supplies are dwindling and replacements may



Estimates of Production

(Net Tons)

BITUMINOUS

Week ended:	1922	1921
May 13 (b).....	4,433,000	8,009,000
May 20 (b).....	4,484,000	7,989,000
May 27 (a).....	4,856,000	8,166,000
Daily average.....	809,000	1,361,000
Calendar year.....	162,468,000	158,706,000
Daily av. cal. yr.....	1,305,000	1,275,000

ANTHRACITE

May 13.....	7,000	1,938,000
May 20.....	8,000	1,794,000
May 27 (a).....	9,000	1,988,000

COKE

May 20 (b).....	101,000	72,000
May 27 (a).....	101,000	68,000
Calendar year.....	2,696,000	3,128,000

(a) Subject to revision. (b) Revised from last report.

be slow. The Army Engineers' May report of "Soo" traffic shows no eastbound movement of coal, indicating that the recent cargoes loaded at the Head-of-the-lakes were not for Michigan ports but went to Canadian destinations. During May only 2,100 tons of anthracite passed up the "Soo" canals, while the bituminous coal movement was 202,978 tons.

BITUMINOUS

"The ninth week of the coal strike (May 29-June 3) will show a decrease in production, largely because of the observance of Memorial Day," says the Geological Survey. "The returns so far received point to an output of between 4,550,000 and 4,750,000 tons. Production of anthracite remains practically zero.

"For the eighth week returns indicate an output of 4,856,000 tons of bituminous coal and 10,000 tons of anthracite, a total of 4,866,000 tons. It is significant that the cumulative production of coal, anthracite and bituminous, since the strike began is now some 30,000,000 short of what was produced during the corresponding period of the great strike of 1919. The difference is due to the fact that in the earlier strike the anthracite miners were not called out and that even the bituminous miners were back at work by the seventh week.

"Loadings on Monday of last week were 15,082 cars, the largest for any Monday since the strike began. On Tuesday, however, because of the Memorial Day holiday, observed in many localities, loadings dropped to 11,142 cars. They recovered promptly on Wednesday, only to decline again on Thursday, partly because of the occurrence of pay day. It therefore seems probable that the total output for the week will fall considerably short of that in the week preceding.

	1st Week	4th Week	5th Week	6th Week	7th Week	8th Week	9th Week
Monday.....	11,445	12,131	11,598	13,118	13,366	14,772	15,082
Tuesday.....	11,019	12,377	12,160	13,266	12,830	15,085	11,142
Wednesday.....	11,437	12,622	12,861	13,445	13,422	14,677	15,097
Thursday.....	11,090	12,981	12,487	13,266	13,445	14,573	13,823
Friday.....	11,296	12,362	12,778	13,727	14,036	15,202	.....
Saturday.....	8,888	11,295	11,265	11,454	12,357	12,662	.....

"In the eighth week of the strike the daily average number of unconsigned loads of bituminous coal was 7,673. This figure includes all unbilled coal held by all of the carriers. The total is now less than one-fourth of that in the week of April 8."

Hampton Roads dumpings for all accounts were 393,062

How the Coal Fields Are Working

Percentage of full-time operation of bituminous coal mines, by fields, as reported by the U. S. Geological Survey in Table V of the Weekly Report.

	Six Months July to Dec. 1921	Jan. 1 to Apr. 1, 1922 inclusive	Apr. 3 to May 20, 1922 inclusive	Week Ended May 20
U. S. total.....	45.6	55.7	.....	.....
Non-Union.....	.....	.....	.....	.....
Alabama.....	63.5	64.6	72.7	77.7
Somerset County.....	55.5	74.9	52.5	18.5
Panhandle, W. Va.....	55.3	51.3	38.5	45.5
Westmoreland.....	54.9	58.8	79.5	77.3
Virginia.....	54.8	59.9	74.8	83.3
Harlan.....	53.3	54.8	48.6	60.5
Hazard.....	51.7	58.4	57.6	55.8
Pocahontas.....	49.8	60.0	74.9	80.1
Tug River.....	48.1	63.7	79.8	89.4
Logan.....	47.6	61.1	74.9	79.6
Cumberland-Piedmont.....	46.6	50.6	13.8	18.8
Winding Gulf.....	45.7	64.3	77.8	75.4
Kenova-Thacker.....	38.2	54.3	71.5	86.7
N. E. Kentucky.....	32.9	47.7	58.4	60.1
New River.....	24.3	37.9	12.0	29.1
Union.....	.....	.....	.....	.....
Oklahoma.....	63.9	59.6	14.8	9.0
Iowa.....	57.4	78.4	0.0	0.0
Ohio, Eastern.....	52.6	46.6	0.0	0.0
Missouri.....	50.7	66.8	0.3	1.0
Illinois.....	44.8	54.5	0.0	0.0
Kansas.....	42.0	54.9	10.7	11.0
Indiana.....	41.4	53.8	0.0	0.0
Pittsburgh.....	41.2	39.8	0.0	0.0
Central Pennsylvania.....	39.1	50.2	11.3	10.6
Fairmont.....	35.3	44.0	4.6	6.2
Western Kentucky.....	32.5	37.7	50.7	79.1
Pittsburgh*.....	30.4	31.9	0.0	0.0
Kanawha.....	26.0	13.0	1.8	2.5
Ohio, Southern.....	22.9	24.3	0.0	0.0

*Rail and river mines combined.

† Rail mines.

‡ Union in 1921, non-union in 1922.

net tons during the week ended June 1, as compared with 328,030 tons in the previous week. Accumulations at the piers are piling up and prices are softer as consumers hold back to await the outcome of the price conference. The present price at the Roads is 75c. under Mr. Hoover's figure of \$3.50. Coastwise freights are easy and there are enough surplus bottoms available to keep these rates at a minimum.

Lake dumpings were 277,360 net tons during the week ended June 5—268,621 tons cargo and 8,739 tons vessel fuel—as compared with 249,866 tons in the preceding week. Movement for the season to date now stands at 2,233,286 tons, as compared with 5,829,935 tons for the corresponding period of last year.

All-rail movement to New England increased sharply during the week ended May 27, 1922, when 965 cars of bituminous coal were forwarded, as compared with 496

Current Quotations—Spot Prices, Bituminous Coal—Net Tons, F. O. B. Mines

Low-Volatile, Eastern	Market Quoted	May 8 1922	May 22 1922	May 29 1922	June 5 1922†
Smokeless lump.....	Columbus....	\$2.85	\$3.65	\$3.55	\$3.25@3.50
Smokeless mine run.....	Columbus....	2.40	3.30	3.40	2.75@3.25
Smokeless screenings.....	Columbus....	2.20	3.25	3.25	2.75@3.00
Smokeless lump.....	Chicago.....	2.90	2.75	3.40	3.00@3.25
Smokeless mine run.....	Chicago.....	2.25	2.75	3.15	2.50@3.25
Smokeless lump.....	Cincinnati.....	2.90	3.50	3.40	3.25@3.50
Smokeless mine run.....	Cincinnati.....	2.60	3.25	3.15	2.75@3.00
Smokeless screenings.....	Cincinnati.....	2.40	3.15	3.00	2.75
*Smokeless mine run.....	Boston.....	5.65	7.35	6.15	6.00@6.15
Clearfield mine run.....	Boston.....	3.15	3.75	3.15	3.00@3.40
Cambria mine run.....	Boston.....	3.50	4.25	3.65	3.50@3.75
Somerset mine run.....	Boston.....	3.40	3.65	3.40	2.90@3.40
Pool 1 (Navy Standard).....	New York.....	3.75	.....	.....	4.00@4.75
Pool 1 (Navy Standard).....	Philadelphia.....	3.75	4.75	.....	.....
Pool 1 (Navy Standard).....	Baltimore.....	3.90	.....	.....	.....
Pool 9 (Super. Low Vol.).....	New York.....	3.50	.....	3.80	3.75@4.00
Pool 9 (Super. Low Vol.).....	Philadelphia.....	3.40	4.65	3.60	3.75@4.00
Pool 9 (Super. Low Vol.).....	Baltimore.....	3.40	4.75	3.25	3.25@3.50
Pool 10 (H. Gr. Low Vol.).....	New York.....	3.25	4.90	3.60	3.65@3.80
Pool 10 (H. Gr. Low Vol.).....	Philadelphia.....	3.20	4.75	3.25	3.40@4.00
Pool 10 (H. Gr. Low Vol.).....	Baltimore.....	3.25	4.75	3.25	3.25@3.40
Pool 11 (Low Vol.).....	New York.....	3.00	4.65	3.25	3.50@3.70
Pool 11 (Low Vol.).....	Philadelphia.....	2.85	.....	2.75	3.00@3.50
Pool 11 (Low Vol.).....	Baltimore.....	3.20	4.75	3.05	3.00@3.25
High-Volatile, Eastern	Market Quoted	May 8 1922	May 22 1922	May 29 1922	June 5 1922†
Pool 54-64 (Gas and St.).....	New York.....	2.70	.....	3.10	3.50@3.75
Pool 54-64 (Gas and St.).....	Philadelphia.....	2.65	3.40	2.75	.....
Pool 54-64 (Gas and St.).....	Baltimore.....	3.00	4.00	3.00	3.00@3.45
Kanawha lump.....	Columbus....	3.15	3.60	3.45	3.00@3.45
Kanawha mine run.....	Columbus....	2.65	3.25	3.25	2.75@3.00
Kanawha screenings.....	Columbus....	2.20	3.35	3.10	2.50@2.85
W. Va. Splint lump.....	Cincinnati.....	2.50	3.40	3.40	3.00@3.50
W. Va. Gas lump.....	Cincinnati.....	2.90	3.65	3.30	3.00@3.50
W. Va. mine run.....	Cincinnati.....	2.70	3.40	3.10	2.50@3.00
W. Va. screenings.....	Cincinnati.....	2.50	3.25	3.10	2.50@2.75
Hooking lump.....	Columbus....	3.15	3.90	3.60	3.00@3.25
Hooking mine run.....	Columbus....	2.90	3.65	3.55	2.85@3.20
Hooking screenings.....	Columbus....	2.25	3.50	3.55	2.75@3.00
Pitts. No. 8 lump.....	Cleveland....	3.25	3.90	.....	.....
Midwest	Market Quoted	May 8 1922	May 22 1922	May 29 1922	June 5 1922†
Pitts. No. 8 mine run.....	Cleveland....	\$3.00	\$3.90	\$3.25	.....
Pitts. No. 8 screenings.....	Cleveland....	3.00	3.90	3.25	.....
South and Southwest	Market Quoted	May 8 1922	May 22 1922	May 29 1922	June 5 1922†
Big Seam lump.....	Birmingham..	2.00	2.00	2.00	2.15@2.25
Big Seam mine run.....	Birmingham..	1.70	1.70	1.70	1.50@1.90
Big Seam (washed).....	Birmingham..	2.15	1.85	1.85	1.75@2.00
S. E. Ky. lump.....	Chicago.....	.....	3.65	3.10	3.00@3.25
S. E. Ky. mine run.....	Chicago.....	.....	3.50	3.10	3.00@3.25
S. E. Ky. lump.....	Louisville....	2.90	3.90	3.10	2.60@3.85
S. E. Ky. mine run.....	Louisville....	2.80	3.40	3.10	2.60@3.85
S. E. Ky. screenings.....	Louisville....	2.60	3.40	3.10	2.60@3.85
S. E. Ky. lump.....	Cincinnati.....	2.60	3.50	3.30	3.00@3.60
S. E. Ky. mine run.....	Cincinnati.....	2.60	3.50	3.15	2.65@3.00
S. E. Ky. screenings.....	Cincinnati.....	2.50	3.25	3.15	2.60@3.00
Kansas lump.....	Kansas City..	4.25	4.25	4.25	4.00@4.50
Kansas mine run.....	Kansas City..	4.15	4.15	4.20	4.00@4.40
Kansas screenings.....	Kansas City..	2.65	2.65	2.75	2.60@2.85

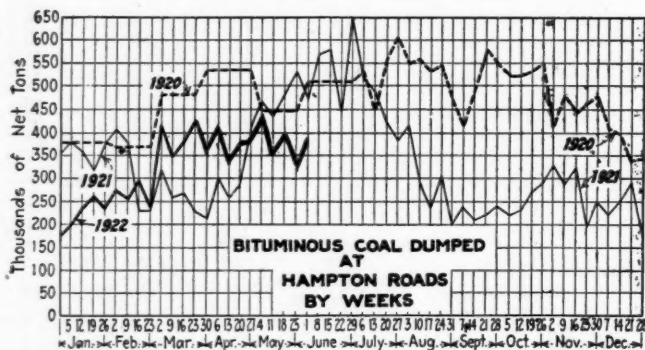
*Gross tons, f.o.b. vessel, Hampton Roads.

†Advances over previous week shown in heavy type, declines in italics.

NOTE—Smokeless prices now include New River and Pocahontas.

in the preceding week. The increase is only temporary, however, as New England is not in the market for coal at the present quotations from the Pennsylvania fields. The movement is confined almost entirely to contract fuel, most of it for railroad use.

Alabama producers are benefiting from an influx of "foreign" coal orders from markets normally supplied by other fields now closed. This has resulted in heavier operations, but with the exception of domestic coal, prices have



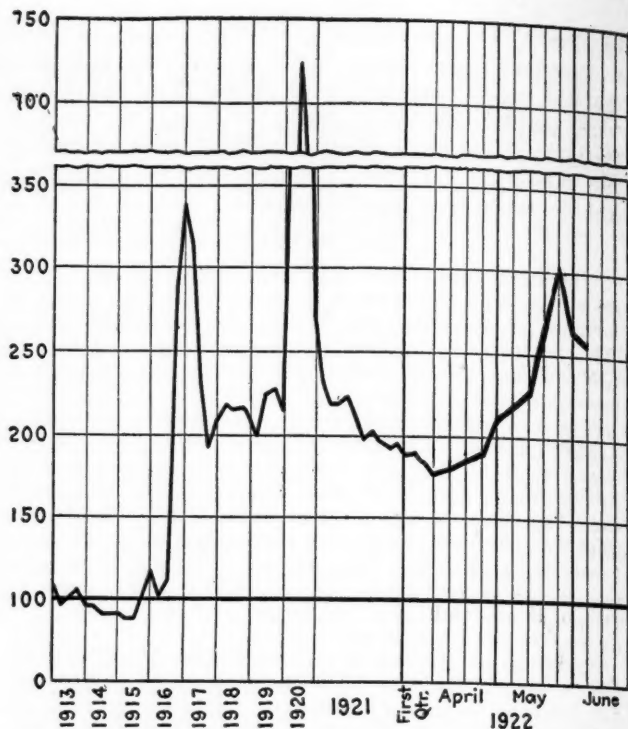
not advanced. Alabama coal men were the first to accept Mr. Hoover's price ideas and quoted their product at 25c. under the Garfield price.

ANTHRACITE

No fresh-mined coal is being produced. The 184 cars loaded during the week ended May 27 were steam sizes dredged from the rivers. Against a weekly output of 1,988,000 net tons a year ago, present production is less than 10,000 tons. Coal continues to go forward from the storage yards of the producers, and it is this ex-storage coal which supplies most of the tonnage moving. The number of unbilled loads for the week ended May 27 averaged 1,168 cars. Domestic demand at retail is at a standstill. In the steam trade, buckwheat No. 1 is coming into active demand, being the only steam size available, except for the coals now being dredged from the rivers.

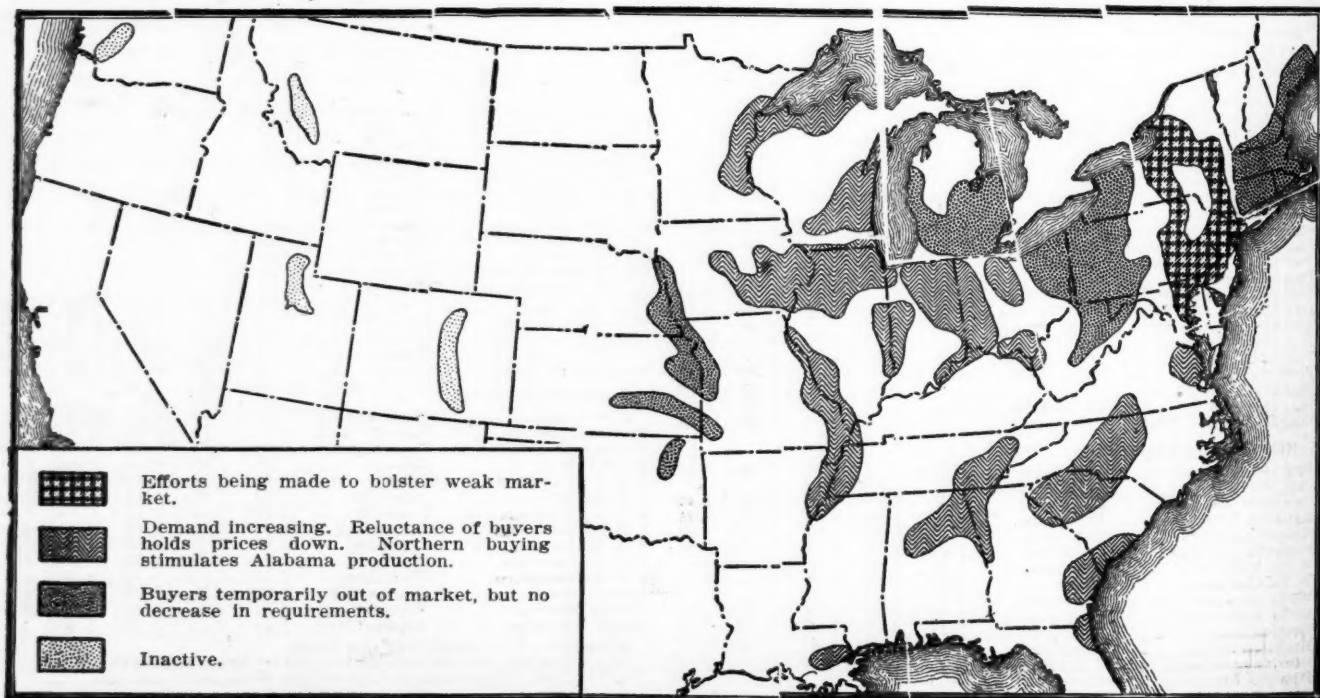
COKE

Beehive coke production was 101,000 net tons during the week ended May 27, unchanged from the preceding week's output. Production in the Connellsville region was slightly



increased during the week. Coke offerings are very light and although spot quotations are too high for most users, there are enough buyers in the coke market to sustain them. The market has been strengthened also by recent buying by some Eastern furnaces. Connellsville coal, while not included in Hoover's price views last week, was selling under the \$3.50 figure set for other non-union fields.

Relative Activity of Markets for Bituminous Coal at End of Ninth Week of Strike



Foreign Market And Export News

British Export Market Less Active

Production in Great Britain for the week ended May 20 was 4,804,000 gross tons, according to a cable to *Coal Age*, as compared with 4,945,000 tons in the preceding week. The East coast markets are softening and with sales declining and offerings increasing, lower prices are being quoted. The South Wales Coal Owners' Association has called a meeting to discuss a future policy, fearing that unless definite action is taken, prices will drop below production costs.

During April, 1,326,471 tons of bunker coal were shipped for the use of steamers engaged in the foreign trade, as compared with 661,800 tons in the corresponding month last year. During the first four months of 1922, 5,729,733 tons were shipped.

South American demand for Welsh coal has revived considerably and there are indications that supplies to that quarter will soon reach pre-war figures.

The resumption of work in the British shipyards has had a very favorable influence on the north British coal fields, notably, Northumberland and Durham. Export business includes an increasing demand from Germany. The Soviet Government of Russia has also contracted for 260,000 tons for four months at the rate of 65,000 tons per month. A Stockholm gasworks has taken 40,000 tons of Durham coking coals and 10,000 tons of Durham gas coals. Gefle gasworks has also asked for 4,000 tons of special Durham gas coals for shipment during the next three months. British merchants are interested in the Brazilian Government's call for tenders for 150,000 tons of steam coal for the Central Railway.

The English and Welsh Railways have reduced the transport charges on coal, coke and patent fuel as follows: Flat rate further reduced from 4d. to 3d. per ton; maximum addition reduced from 4s. to 3s. 6d. per ton. Where the 3s. rate is now applicable it will be retained.

Prices Soft at Hampton Roads

Dumpings were on the increase last week. The Norfolk & Western Piers broke the world's dumping record, having sent down the chutes over 52,000 tons of coal in 19 hours and 10 minutes, and for May dumped 817,000 tons, out

of a total of 1,542,000 tons for all piers.

While dumpings were on the increase, stocks moved were mostly on contract, very little new business having come into the market. Dealers attributed this to the attitude of "watchful waiting" on the part of consumers who are holding back for the outcome of the Hoover conference.

Movement to New York was holding its own, while New England shipments were falling off. Prices dropped again during the week. Dealers were confident of an increase in business during the next two weeks, when consumers' stocks, not having been recently replenished, are exhausted.

United States April Exports, by Customs Districts

Customs Districts	Gross Bituminous	Tons Anthracite
Vermont.....	780	216
St. Lawrence.....	138,217	53,079
Rochester.....	11,476	1,544
Buffalo.....	117,221	49,270
New York.....	115	3,414
Philadelphia.....	10,602	702
Maryland.....	14,141	.....
Virginia.....	212,527	.....
S. Carolina.....	19,836	.....
Florida.....	14,112	.....
Mobile.....	467	.....
New Orleans.....	868	50
San Antonio.....	39	323
El Paso.....	5,224	113
San Diego.....	33	.....
Arizona.....	1,220	.....
San Francisco.....	54	2
Washington.....	407	.....
Alaska.....	141	.....
Dakota.....	3,016	172
Duluth and Superior.....	6,518	27
Michigan.....	72,780	375
Ohio.....	85,201	3
Total.....	714,995	109,290

Coal Paragraphs from Foreign Lands

ITALY—The price of Cardiff steam first is quoted at 39s. 3d. on the Genoa market, according to a cable to *Coal Age*, as compared with 30s. 6d. last week.

GERMANY—Production in the Ruhr region during the week ended May 20 was 1,889,000 metric tons, according to a cable to *Coal Age*, as compared with 1,835,000 tons in the previous week.

HOLLAND—Total production of coal in the Netherlands during 1921, 3,927,000 metric tons, was substantially the same as the year before, and compares with 3,401,000 tons in 1919, 3,399,000 tons in 1918, and much less in

previous years. The coal supply for 1921 amounted to approximately 8,625,000 tons, as compared with 7,620,000 tons in 1920 and 7,554,000 tons in 1919.

BELGIUM—No important changes have taken place on the market, although business is slightly more active and there is a better demand for certain industrial fuels. The entire coke production is easily sold and there is even a certain delay in delivery. Switzerland and Holland continue to lay in stocks of anthracite. The Grand Duchy of Luxembourg and Alsace-Lorraine are buying large quantities of metallurgical coke.

Hampton Roads Pier Situation

	Week Ended May 25	June 1
N. & W. Piers, Lamberts Point:		
Cars on hand.....	3,242	3,677
Tons on hand.....	163,195	195,892
Tons dumped.....	149,582	209,979
Tonnage waiting.....	30,000	59,600
Virginian Ry. Piers, Sewalls Point:		
Cars on hand.....	1,667	1,711
Tons on hand.....	83,350	85,550
Tons dumped.....	84,488	92,101
Tonnage waiting.....	26,250	20,909
C. & O. Piers, Newport News:		
Cars on hand.....	1,454	911
Tons on hand.....	72,700	67,500
Tons dumped.....	58,814	57,869
Tonnage waiting.....	7,915	3,300

Export Clearances, Week Ended, June 1, 1922

FROM HAMPTON ROADS:

For Atlantic Islands:	Tons
Nor. S.S. Gran, for Barbados.....	2,976
Dan. S.S. Normanna, for Curacao.....	3,723
Nor. S.S. Wagland, for Kingston.....	3,071
Amer. Schr. Cynthia J. Griffin, for St. Stephens.....	588
Nor. S.S. Fram for Port au Spain.....	3,061
For Cuba:	
Amer. Schr. Friendship, for Banas.....	1,004

FROM PHILADELPHIA:

For Atlantic Islands:	
S.S. Carib, for San Juan.....	.....
For Cuba:	
Dan. S.S. Phonix, for Havana.....	.....

Pier and Bunker Prices, Gross Tons

PIERS	May 27	June 3†
Pool 9, New York.....	\$7.25@ \$7.50	\$7.00@ \$7.25
Pool 10, New York.....	7.00@ 7.25	6.60@ 7.00
Pool 9, Philadelphia.....	6.75@ 7.00	7.25@ 7.50
Pool 10, Philadelphia.....	6.50@ 6.75	7.00@ 7.25
Pool 71, Philadelphia.....	7.00@ 7.25	7.50
Pool 1, Hamp. Rds.....	6.00@ 6.25	6.00@ 6.10
Pools 5-6-7 Hamp. Rds.....	6.00@ 6.50	5.80@ 6.00
Pool 2, Hamp. Rds.....	6.00@ 6.20	5.60@ 5.80

BUNKERS

Pool 9, New York.....	\$7.60@ \$7.80	\$7.30@ \$7.55
Pool 10, New York.....	7.15@ 7.55	6.90@ 7.25
Pool 9, Philadelphia.....	7.05@ 7.35	7.40@ 7.85
Pool 10, Philadelphia.....	6.80@ 7.00	7.00@ 7.25
Pool 1, Hamp. Rds.....	6.25@ 6.50	5.75
Pool 2, Hamp. Rds.....	6.25@ 6.50	5.75
Welsh, Gibraltar.....	43s. f.o.b.	43s. f.o.b.
Welsh, Rio de Janeiro.....	57s. 6d. f.o.b.	57s. 6d. f.o.b.
Welsh, Lisbon.....	43s. f.o.b.	43s. f.o.b.
Welsh, La Plata.....	50s. f.o.b.	50s. f.o.b.
Welsh, Genoa.....	43s. t.i.b.	43s. t.i.b.
Welsh, Messina.....	41s. f.o.b.	41s. f.o.b.
Welsh, Algiers.....	41s. f.o.b.	41s. f.o.b.
Welsh, Pernambuco.....	65s. f.o.b.	65s. f.o.b.
Welsh, Bahia.....	65s. f.o.b.	65s. f.o.b.
Welsh, Madeira.....	42s. 6d. f.a.s.	42s. 6d. f.a.s.
Welsh, Tenerife.....	40s. 6d. f.a.s.	40s. 6d. f.a.s.
Welsh, Malta.....	44s. 6d. f.o.b.	44s. 6d. f.o.b.
Welsh, Las Palmas.....	40s. 6d. f.a.s.	40s. 6d. f.a.s.
Welsh, Naples.....	38s. f.o.b.	38s. f.o.b.
Welsh, Rosario.....	52s. 6d. f.o.b.	52s. 6d. f.o.b.
Welsh, Singapore.....	57s. 6d. f.o.b.	57s. 6d. f.o.b.
Port Said.....	51s. 6d. f.o.b.	51s. 6d. f.o.b.
Alexandria.....	43s.	43s.
Capetown.....	35s. 3d.	35s. 3d.

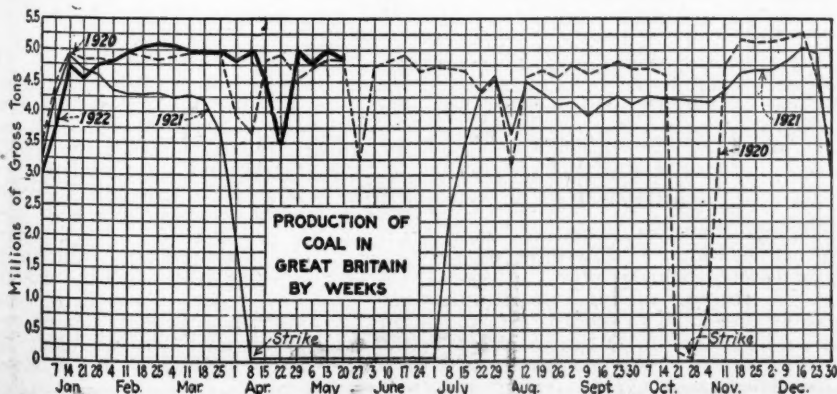
Current Quotations British Coal f.o.b.

Port, Gross Tons

Foreign Quotations by Cable to Coal Age

Cardiff:	May 27	June 3†
Admiralty, Large.....	27s. 9d. @ 28s.	27s. @ 27s. 3d.
Steam, Small.....	18s. 6d. @ 19s.	18s. 6d. @ 19s.
Newcastle:		
Best Steams.....	23s. 6d. @ 24s.	23s.
Best Gas.....	23s. 6d.	22s. 6d.
Best Bunkers.....	22s. 6d. @ 23s.	21s. @ 22s.

†Advances over previous week shown in heavy type; declines in italics.



North Atlantic

Prices Strengthen Gradually Following Violent Decline

Buyers Retiring in View of Price Conference and Freight Cut—Moderate Consumer Shops Cautiously—Emergency Orders Prevent Sag in Spot Quotations—Production Gains Slowly.

BETWEEN the Washington conference and the freight drop buyers have become more reticent. The withdrawal of demand, however, which caused a violent decline in prices ten days ago, has been followed by a gradual upbuilding of the price market. The moderate consumer is still wary and will not buy unless he gets his price, but there are evidently enough emergency orders available to temporarily bolster spot quotations and Pennsylvania coals are ranging \$3.50@ \$4.50, depending on quality.

Production is increasing slowly, some defections in the union ranks being noted in the Clearfield section. Southern coals in heavy volume are a factor in holding all prices from a more rapid advance.

PHILADELPHIA

The violent drop in prices of a week ago has been considerably checked and such coal as can be had is once more hovering around \$4. The moderate consumer is still staying out of the market, feeling certain that he will save much money by doing so, yet the hopes of some are likely to be blasted, as many are expecting a price close to \$2.

The matter of a fixed price naturally is causing much comment in the trade, and at this time it appears that if a standard is set there will really be no spot market, at least in a sense, as it would not be necessary for a producer to job his product around.

Some consumers recently have been approached for business on a contract basis, there being some producers who are willing to enter into a contract beginning at such a time as the strike is settled. To the mass of consumers this seems somewhat odd, yet when it is considered that some good coal has been offered on a basis of \$2.50 it would appear not to be so bad after all. The interests talking contract are evidently figuring that with the strike over there will be plenty of spot coal even under the above figure and will be glad to have a proportion of their tonnage tied up at that price.

BALTIMORE

The price is now hitting on maximum under the Hoover arrangement. The individual agreement idea as formulated in Washington led as a first effect to a sudden release of consider-

able coal which had been held apparently with the idea of getting \$4 and better. This sudden release, along with the fact that the public was not demanding fuel in quantity, led to a drop of even high-grade coals to the \$3 mark for a time.

For several days, however, there has been a gradual upbuilding of the price market. At this writing even the poorer grades are worth \$3@ \$3.25, the better grades striking the maximum of \$3.50.

One of the curious twists of the price-fixing idea is that Pocahontas and New River are being held generally around the maximum price, whereas even in the recent spurt which carried some of the coals close to \$5, it was not difficult to get Navy Standard at Hampton Roads on a mine basis of \$3@ \$3.25.

The export situation remains utterly at a standstill. Nearly two months have gone by without a single shipment of cargo coal to a foreign port from Baltimore. There is some difference of opinion in the trade as to whether American coals will again get actively into the foreign market this summer.

NEW YORK

Between conferences at Washington and the freight rate reduction order the few buyers in the field have apparently retired to await developments. Demand has taken a further slump but quotations are firmly held and show no softening tendency.

Coal which had been ordered a couple of weeks back when prices were higher reached Tidewater and remained there because of the refusal of the prospective purchasers to take it at the figures they were quoted at the time. They also added the Hoover conferences and the change in freight rates to their refusal reasons. There were about 2,000 cars at the docks at the end of the week.

The lack of activity in Pennsylvania coals available here was attributed in part to the Southern coals which have been offered in some instances at less than the quotations for the better grades of Pennsylvania product.

UPPER POTOMAC

Further improvement is observed both in the Upper Potomac and Georges Creek fields. Upper Potomac production, as a result of a resumption of operations at additional mines, is now about 20,000 tons a week. There continues to be a strong demand although further advances in price had been checked owing to more conservative buying and the prospect of an agreement on prices.

FAIRMONT

Although there has been more or less violence on the part of striking miners in connection with the efforts of operators to resume mining, nevertheless mine-owners have succeeded in a number of instances in getting back on a working basis. Approximately 137 mines are now in operation, producing

about 40 per cent of the normal tonnage of this section. Although prices have declined as a result of the price limitation talk, the drop has not been such as to debar smaller mines from operating.

CENTRAL PENNSYLVANIA

With the return of more miners, production has shown a steady increase until loadings now are well over 600 cars per day. For the first time since the strike was declared miners have deserted the union and gone back to work on the 1917 scale.

At one operation in Clearfield County, 200 miners returned to work. Money to pay the check-weighmen will be collected by the operating companies but there will be no checkoff payments. In the Colver and Ebensburg sections, evicted families are living in tents provided by the union.

West

KANSAS CITY

Little or no interest seems to be taken in the coal strike. So far no one has had to close down and some of the larger plants have two month's supply of coal on hand and none of them are out. Besides, a number of retail yards are full of coal of all grades. Some of the public utilities have enough coal in storage to last them until October, and if the mines were to start up tomorrow they would have a hard time to place a quarter of their potential capacity production. It is also true that smaller plants are getting short of coal but the little that is being produced in Arkansas, Kansas and Missouri, is ample to take care of all the requirements.

Summing the situation up, about the only one that is not worrying is the consumer of coal. No material change in prices has appeared.

DENVER

Freight reductions for July 1 will result in an unusual increase in the summer domestic coal trade and possibly lower prices, according to many of the large operators of the state. There will be a reduction of 26c. a ton in the rate from the Canon City district to Denver and 13½c. from the Walsenburg district. On shipments into western Kansas the maximum cut will amount to 60c.

In spite of the nationwide strike operators say Colorado mines have been producing more coal than was necessary to supply the demand. Many of them prophesy a drop in price soon. Retailers are holding off in anticipation of this.

SALT LAKE CITY

Operators report that the industries and railroads are furnishing about the only market for coal now, but they are not storing much, if any. The Coast trade has shown no signs of improvement so far. It is expected to come with a rush as soon as the I. C. C. approves the new rate filed by the carriers. Dealers are trying to get their customers to put in coal for the winter and many circulars have been sent through the mail of late. Prices remain the same and are not likely to change without a decrease in the intrastate rates.

Anthracite

Market Still Inert; Dealers Indifferent as Stocks Melt

Consumers Warned of Rush When Coal Is Available—Shrinkage of Storage Piles Quickens Demand for Steam Coals Dredged from Rivers.

Retail stocks are running low but there is little buying activity shown. The consumer continues his indifferent attitude, except for an occasional inquiry of his dealer as to the outlook for his winter's supply. Retailers are not urging purchases, although warning their customers of an inevitable rush to come when coal is again available. In the meantime, dealers are content to fill what few orders come their way, knowing that they are certain to clean up their old stocks before they have to replace with a new-cost fuel.

Storage piles of domestic coals are reduced to pea while buckwheat No. 1 is about all that is available in the steam line. This is enhancing the market for steam coals dredged from the rivers, which is the only coal now being produced.

BUFFALO

Demand was never so small. As a rule the shippers have some coal of certain sizes, but the call for it is so small that it is a certainty that the consumer is in no way disturbed by the outlook.

Independent anthracite is now said to be all gone. Jobbers are not able to get any and they do not try to sell any schedule-company coal, so they are obliged to fall back on what little they can get out of the bituminous trade, which is little enough at the best.

The Lake situation is not much changed. Vessel owners say they are certain of a rushing fall business, for both coal and ore will be moving at capacity rates. Now it is hard to keep the fleet busy, except on bituminous business.

BOSTON

There has been a noticeable increase in retail deliveries, due doubtless to newspaper reports as interpreted by the more prudent householders. Egg is particularly in demand and from present indications the larger cities will have small supplies of stove and chestnut after egg reserves are entirely depleted.

About the only hard coal now being received is confined to small shipments of egg and chestnut, together with an occasional lot of pea. A larger number of communities are taking from the retailers a surprisingly small tonnage

from week to week. Sometime the scare will start and the present relatively small stocks will be absorbed in a short period.

PHILADELPHIA

Retail trade remains at a standstill, with not a dealer in the city delivering enough coal to meet anything near the expense of keeping open. There was an offering of storage stove and nut during the week, with a number of orders placed, although the report now is that delivery will not be made, due to trouble at the mines where the coal was being run through a breaker for re-cleaning and better separation.

With the suspension two months old there is a general increase in the number of people who are inquiring of their coal dealer as to the possibility of being taken care of next fall. One dealer tells the whole story when he says "a ton order now when we have it is worth a hundred when we don't."

Storage buckwheat is now moving better than at any time since last winter. Outside trade is still paying \$3.75 @ \$4 for this size, and sometimes \$4.25. All companies receive many inquiries for rice and barley, which they cannot fill. Manufacturers are turning to some extent to river coal and the interests producing this are coming into the market and getting some trade, with every prospect of betterment.

BALTIMORE

A survey of the yards shows that the reserve is probably not greater than 5,000 tons. A curious feature of the situation is that the public is apparently not at all disturbed over the situation. However, the real underlying feeling of the public is that the strike has caused a temporary scarcity which will prevent them getting coal except at advanced rates and that there will be plenty later on. The physical possibility of delivery and distribution when everything is rushed in a few weeks does not seem to strike the average consumer.

NEW YORK

There is no real activity in the situation. With production at a standstill and their stock piles reduced to a minimum there is practically nothing larger than pea size available.

Retail dealers are moving supplies slowly. They are well stocked with certain sizes but are not urging their customers to lay in their winter coal. Those who want coal have no difficulty in getting it from certain dealers.

Most dealers with business establishments for regular customers have made arrangements to keep them supplied during the suspension, even though it means the holding up of household orders.

The public has not yet become interested enough to realize that there may be a shortage in the fall and winter, even though the mines should resume operations now. When they do the trade looks for a strong demand

and a quick turn-over of what coal will be available.

Demand for steam coals is active with little rice or barley being offered. Some loaded boats of buckwheat were offered at \$6.25 @ \$6.75, alongside, and rice at about 50c. lower.

ANTHRACITE FIELDS

Sentiment seems to be growing that more and more of the miners will take a reduction of pay if that will clear up the situation. Officials of the union have indicated that the men are against the proposal of the operators to submit the wage controversy to a Presidential tribunal. Rejection of the proposal would mean a strike, bringing out the 8,000 maintenance workers now caring for the coal properties.

Members of the scale committee are on an extended survey of the field to sound out the men on this arbitration proposal. If a strike were called, the men are likely to be disappointed in the amount of strike benefits that are available.

South

BIRMINGHAM

The market is looking up a little and indications point to more active buying. In local territory there is some disposition to contract for steam coal, especially on the part of the cotton oil industry. Some coal is going into Georgia and Mississippi territory formerly supplied from east and west Kentucky. There is a more optimistic feeling in the trade and confidence that better business is not far off.

Domestic demand is rather weak, especially the medium and lower grades. Retail trade is practically at a standstill.

The railroads, aside from the Frisco, are pretty well stocked ahead and are not taking their contract quotas at present. Coal loading equipment during the past week has been somewhat short on the L. & N., Southern and Mobile & Ohio.

Quotations on steam coal are unchanged. Domestic prices for June range as follows:

	Lump and Egg
Carbon Hill	\$2.15 @ \$2.40
Black Creek	2.90 @ 3.15
Cahaba	3.15 @ 3.65
Corona	2.65 @ 2.90
Montevallo	3.90 @ 4.15

Production is now on a basis of about 300,000 tons per week. There is a good supply of both miners and company labor. Labor agencies have been busy in this field of late and quite a few men have been carried away on transportation or induced to go to other mining districts.

VIRGINIA

Production reached its highest point since late in 1920 during the latter part of May, averaging 200,000 tons a week. There was a slight loss from car shortage and a heavier loss from labor shortage, with mine disability also retarding production a little. As coal output increases coke production is dwindling. Most of the small mines are now working. The market is absorbing the entire output of the region, there being an especially strong call at Tidewater and in Eastern Inland markets.

Chicago and Midwest

Sluggish Market Week Ends with Better Tone

Trade Was Slow Throughout The Region And Distress Coal Caused Some Pain but Prices Are Firmer Now—Railroad Pool Makes Enemies.

COAL trade generally was sluggish throughout most of the past week but within the last day or two the Midwest market has "perked up" a trifle and prices have firmed. In the case of Kentucky coals on the Chicago market an upturn of about 50c. a ton was noticeable. Buying was fairly light everywhere. In the Kentucky mining fields it required real effort to sell the whole output even at the reduced prices of a few days ago. Very little other coal appeared in this region.

It is evident that most heavy consumers are going to buy a fair quantity of fuel during the next week or two—now that Mr. Hoover has managed to set a price for all but western Kentucky—and then probably rest on their oars for the remainder of the month until the new freight rates go into effect. The main struggle of the selling agencies will be to "do it now," before the anticipated lull sets in.

The heaviest buying in this part of the country has been done by the railroads' fuel committee. The committee has incurred some enmity by canceling coal it had agreed to take. But generally speaking, the pool has worked greatly to the advantage of the roads in spite of a continuing feeling of discontent on the part of some of the lines involved. The action of the pool has had a decided effect against certain kinds of speculation.

LOUISVILLE

As a result of the announcement of May 24, of reduced freight rates on July 1, coal buying has slumped, consumers laying off of stocking except for emergency use, while awaiting reduced freights, and watching outcome of Washington conferences on price regulation of non-union coals. The feeling that the strike may be broken by July is also having a tendency to hold down immediate buying.

Prices slumped off 50c. @ \$1 within ten days, but are firmer now. There is some railroad buying and some industrial demand, but very little lump demand from retailers. Not much heavy stocking is going on anywhere. Of course the steel and metal working industries are busy and having to buy rather steadily, while the cement and brick and clay industries and general building supply manufactures, and ice and refrigerating people are all busy.

Eastern Kentucky mines are in some instances going along at full speed, others having eased off a little this week, as there are not many buyers in

the field. Inquiry is off, and orders not active. Prices show a wide range, from \$2.50 @ \$3.25 for all sizes.

Eastern Kentucky is moving tonnage principally to the Lakes and to the steel districts, with a little movement to the East.

Jobbers report better demand at Louisville this week than last, which was a quiet one. As a rule the trade feels that in spite of increased non-union production and reduced immediate demand, that the market will remain around \$3 @ \$3.50 for good coal. The present slump promises to be but temporary at best, as storage stocks have been cut into and production is not the equal of present day consumption. This means that the old law of supply and demand may control. In case the buyers hold off until after July to stock and reduce storage stocks materially, it will probably result in a grand fall rush, meaning prices as high as the present ones, if not higher.

WESTERN KENTUCKY

The past 10 days saw western Kentucky prices slump off from \$3.50 @ \$3.75, to \$3.10 @ \$3.35, partly as a result of overbuying reported in Chicago, St. Louis and Detroit, along with a general suspension of buying in view of the Washington conferences and freight rate reduction of July 1.

Producers and jobbers appear to be showing more interest in the Washington discussions, and a willingness to co-operate so far as they can, to prevent any runaway market. However, since the announcement of the future freight reduction, there will be enough coal mined and waiting probably to prevent any rapid advances. A market of \$3 @ \$3.50 a ton appears to be in prospect for all sizes.

Jobbers are scouting the fields and using long distance telephones freely in lining up coal that can be bought for resale at \$3.25 @ \$3.35 a ton. As a whole, demand is about taking care of the steady production of the field. There is a reported tendency of mine operators to take business covering a few days now instead of only a few hours.

CHICAGO

The coal market here showed distinct signs of firming up along toward the end of last week, following a few days of dropping prices and of disinterest by smugly satisfied buyers. The slump in western Kentucky to \$3 ended and that coal began fighting its way back up so that a fair average quotation at the end of the week was \$3.45. Eastern Kentucky, which had sagged below \$3 also executed an ascent to about \$3.25 while the little West Virginia fuel which penetrated the ranks of active markets between the field and this city went up to about the same level. All this happened after several hundred cars of distress coal earlier in the week had been unloaded and the yards more or less cleared out.

The railroad pool continues to cause trouble for jobbers and some others. The organization did not fix a maxi-

mum buying price and stick to it, but devoted itself to trimming the market quotation at every opportunity. In at least one case the coal committee outraged an operator by canceling a written order after some of the coal was rolling. "If that sort of thing goes on," commented a coal man, "railroads may rest assured a lot of business hatred will be laid up against them which will vent itself when more normal times arrive." A railroad fuel agent said he didn't know what the committee was doing, but if it did cancel it would only be returning tit for tat. Many an operator in the past has refused to deliver coal at an agreed price, when the market was bounding upward.

SOUTHERN ILLINOIS

With practically all the commercial coal gone that has been held in storage, except a little slack that has been on the ground for a considerable length of time, there is no activity in the Williamson and Franklin County field. A little railroad coal is still held at a couple of points. There has been no disturbance of any kind, but the miners are uneasy and at several points their guarantee has been shut off. Especially has this been true of the unmarried mine worker. This element, however, seems to be drifting away from many sections.

A little coal is still on hand in the Mt. Olive field, but this will be entirely gone in the next week or ten days. In the Standard district there are still a few thousand tons on the ground. This is being loaded out rapidly and is bringing about \$4.50 for domestic sizes and \$4 @ \$4.25 for the steam coal at the mine. Quietness prevails throughout the Standard field, but the miners indicate that they are getting uneasy and are at the straining point financially.

ST. LOUIS

There is no activity locally. A little steam is being bought under emergency. The tonnage is so small that it is not a material factor in the market. Dwindling storage piles are still being called upon. Operators who held coal at the mines for their contracts and regular trade have about sold their all.

A little Kentucky coal continues to come in in isolated cases, but the buyers in this market are prejudiced against Kentucky on account of the high prices asked. The feeling here is that \$3 as a maximum is all that the coal should bring. The present market shows that it is down to slightly above \$3, although some operators are asking as high as \$3.50 @ \$3.75. A little continues to move out into the country at a few points for steam and here and there a car for threshing.

INDIANAPOLIS

Coal has begun getting scarce in Indianapolis and other parts of Indiana. Distributors of coal say the supplies are not coming through as freely as they did two or three weeks ago and the general increase in industrial activity has created a somewhat larger demand. While the utilities and railroads appear to be in shape to stand another sixty days of mining vacation, these smaller industries who were not expecting any production increases, have begun to feel the pinch of want.

Northwest

Buying Picks Up Some in Northwest Market

Steam Coals Sell Better Now That Industries Seem to Be Coming to Life—Prices Are Growing Stronger—But Domestic Business Is Slow.

THE slight quickening of industry throughout the Northwest is having its effect upon the coal market. Steam sizes are selling better and prices have lost their sag. Railroads are taking their share of the available dock coal at the lowest market quotation and enough other buyers are in the market to continue the fear that dock supplies will be exhausted at a time when it is going to be hard to replenish them.

A few more cargoes of soft coal, and small shipments of anthracite have reached the upper ports. In some sections observers "set great store" by the coming crop. If it develops well, an increase in manufacture is expected to follow, so that a busy fall season, especially in the great flour milling section, is anticipated.

MILWAUKEE

An increasing demand from large consumers of steam coal is a new feature of the coal situation at Milwaukee. Domestic consumers are practically out of the market though dealers advise customers to "buy now." Dealers hold that if the strike continues after the lower freight rates go into use July 1, the effect upon the market will more than off-set the freight reductions. Pittsburgh and Youghiogeny coal for steaming was increased 50c. per ton on June 1, and screened Pocahontas and mine run for steaming purposes was increased 75c.

Five cargoes were added to Milwaukee's receipts last week. This makes the total receipts by cargo 8,000 tons of anthracite and 265,297 tons of soft coal, a grand total of 273,297 tons. The movement of anthracite is completely suspended. Last year the record was 256,765 tons of anthracite, and 642,330 tons of soft coal, or a total of 899,095 tons.

DULUTH

Bituminous and anthracite markets at the Head-of-the-Lakes are both following the trend indicated last week and are showing unusual strength with every sign of growing stronger. Coal sages here say that this strengthening indicates a real shortage will take place before the strike is settled and the fast diminishing stocks at Duluth-Superior Harbor are replenished.

Youghiogeny and Hocking are firm at \$7 for lump and \$6.50 for run of

pile. Screenings, of which there is great scarcity are quoted \$5.50@5.75.

Three more cargoes have come to Duluth-Superior harbor and two are on the way from lower ports. The majority of the buying last week was done by the U. S. Steel Corporation subsidiary companies, mining companies and out-of-territory concerns which are stocking up against a possible shortage. It is thought that the steel and mining companies are well taken care of by now as the income tax statement of the steel company showed more than 300,000 tons of coal on docks.

Railroads are taking their share of coal. Some roads have paid as high as the market price for run of pile. This indicates to coal men here that the railroads are uneasy and are taking no chances of a shortage.

Dealers throughout the Northwest are not buying. The demand for bunker coal for Lake carriers, reported as strong two weeks ago, has fallen off. Anthracite is light, but the market is strong. It is estimated that if the strike in hard coal does not end and shipments resume within a month there will be a serious shortage here.

New England

Buyers Market Prevails; Little Gain in Demand Seen

Practically no Change in Market, Price Movement Insignificant—Hand-to-Mouth Sales Only, Inquiries of Small Consequence—Cotton Mills That May Open Still Have Reserves.

THE local market is practically unchanged from a week ago. There has been no price movement worth mentioning either at this end or at Hampton Roads, and so far as spot deliveries are concerned it remains a buyers' market. What sales are made are of a hand-to-mouth character and almost no inquiries are heard for more than a few cars at a time.

While effort is to be made to open certain of the cotton mills the reserves still on hand will make unnecessary further buying by these interests for several weeks to come. In a word, there is no indication of any marked increase in demand during June.

Like other steam-users, the railroads are buying only sparingly. Receipts by water continue to be on the May level, but practically all of this tonnage is on contract and leaves little room for spot purchases. With conferences going on at Washington it is to be

MINNEAPOLIS

The long-expected reduction in freights has been ordered, but coal consumers of the Northwest will not be satisfied. They are hoping that the adjustment of miners' wages will bring about another reduction. The item which causes the most irritation in this district is the cost of hard coal. It is assumed that the revision of freight costs will give about 80c. lower freight charge for the lake and rail route, to the Twin Cities. If the final adjustment of mine wages gives an equal reduction, the total would be around \$1.60 a ton. This would bring hard coal at retail down to around \$16. This will be far from what consumers have been expecting.

Soft coal took a big slump and then braced somewhat when a good sized tonnage was placed with several railroads, thereby reducing the volume of free coal on the docks materially. Current quotations are from \$6 at the dock, up, but buying is slow.

It will probably take some weeks yet before there will be any material increase in industrial consumption. While business prospects are more and more rosy as the crop season progresses, yet until the new crop is well assured, there will be but incidental increased buying which will justify greater manufacturing. The outlook is for a very busy fall, especially with the delayed movement up the Lakes.

expected buyers will await results before buying farther ahead than is actually necessary. The trade is also curious to know how the "fair price" will work out, for at this writing it is about 75c. above the current market at Hampton Roads for coastwise shipment. In October 1918 while the Fuel Administration was still functioning, the Pocahontas price was \$2.35 and New River, \$2.70. We mention this because within a week there have been misleading references to the war-time fixed price.

Meanwhile, tonnage on cars at the Virginia terminals has mounted to new high levels. Accumulations have been in excess of 300,000 tons, of which only 80,000 tons was high-volatile. This shows a very material increase over the previous week.

All-rail receipts continue extremely light, the average daily movement being still less than 90 cars, locomotive supply included. Grades sometimes described as Pools 9 and 10 are being offered freely at the \$3.50 figure. There has been occasional demand from the West at prices higher than this, but non-union mines that are in operation are actively seeking orders.

Coastwise freights continue on an easy basis. In every direction there is a surplus of bottoms and it is only the high cost of operation that prevents rates on the larger vessels dropping below 90c. On small barges out of New York for Boston the market is still \$1 flat.

Navy Standard grades are \$6@6.15 f.o.b. the Roads. Other prices are quoted in the Weekly Review.

Eastern Inland

Current Sales Predicated On Buyers' Price Views

Consumers Reluctant to Buy Without Inducement as Output Gains and Freight Cut Is Near—Industrial Outlook Favorable—Lake Interests More Active.

BUYERS' price views are very definite and dictate current sales in nearly every instance. The purchaser has found that a withdrawal from competitive bidding has lowered spot quotations and with increasing production, government "price lists" and the coming freight reduction is evincing more reluctance to buy coal unless the price is shaved to make the sale.

Purchases are mainly confined to current needs. The most important feature is the improved industrial tone, which presages a heavier consumption rate and a better fuel demand. Lake interests are more active. The Head-of-the-Lakes is inquiring for tonnage and a strong market is not unlikely if the Northwest is to obtain its requirements during the balance of the season of navigation.

PITTSBURGH

Buyers for Connellsville coal have reappeared in numbers in the market in the past few days, but with very definite ideas of prices they are willing to pay, \$3.25 being their maximum, and the market is quotable at this figure, against \$3 a week ago. Byproduct is not quotable.

No small tonnage of Kentucky coal is now reaching Pittsburgh. The day after it was arranged at Washington that \$3.50 should be the maximum on Kentucky coal quotations were made to Pittsburgh buyers at \$2.75, and the market is now steady at \$2.85. This coal costs more than Connellsville, delivered Pittsburgh, but has a ready sale on account of quality.

Buying now is chiefly for immediate consumption. Many buyers show a disposition to restrict their purchases this month, to take advantage of the lower freight rates to come.

There are no important developments in either the union or the various non-union strikes. The latter are expected to begin waning in a marked way within about a month.

EASTERN OHIO

The dullness of the past ten days is subsiding and a revival in demand is reported now that the outcome of the Hoover conference in Washington is known. Buyers generally were reluctant to make commitments, contemplating the probability of lower prices in the spot market as a result of these conferences. Likewise, others with

fair stocks on hand are looking forward to the savings to be effected by the reduction in freight rates July 1. However, operators and jobbers report that inquiries are not particularly active and the larger consumers are not in the market to the same degree that they were several weeks ago.

Non-union coal from eastern Kentucky and West Virginia is quoted as follows: Mine run, nut and slack and slack \$2.90@3.25; lump sizes, \$4.

In the Lake trade, some interest is manifested in the report that all rates on cargo coal from the mines to lower docks will be reduced 20 cents. However, it is claimed that no more than 18,000,000 tons of coal could be transported this year were it possible for shipping to get in full swing by July 1, notwithstanding that the normal requirements of the upper docks are estimated at 24,000,000 tons.

The railroads have approximately 5,000 cars under load at lower docks and dumpings into vessels as well as a number of cars in transit are from 900 to 1,200 cars per day.

BUFFALO

Demand continues so light that one wonders how the prices ever advanced at all. That they fell off again is due to government action and the good amount of coal coming in, especially by Lake. All possible effort is being made to keep prices down to the so-called official level of \$3.50. There is, however, the shipper who is sure that prices will soar and who is engaged in pushing them up every chance he gets.

With quite a large amount of coal standing on track here unsold it ought to be easy to keep the prices down. One difficulty is that the consumer does not always place confidence in the shipper and if he goes into the market on his own account and bids against other consumers he is lost.

The price range is wide, for some coal has to be sacrificed and is offered as low as \$3.25 for any size, slack being most active, and some brings \$4 readily, with a little up to \$4.25@4.50. No real gas coal is offered. Only mine prices are quoted.

The amount of bituminous coming in by Lake for the last week fell to 67,700 net tons, most of it going to the furnaces for coke making.

CLEVELAND

Rising production records, the government's move to put coal prices upon a fixed basis, and the lower freight rates effective July 1, have combined to increase the attitude of reluctance on the part of buyers in this district. With the prospects of an acute coal shortage growing more remote, and with the threats of leaping prices taken care of, consumers consider that they are taking no chances by postponing purchases until the new freight rates go into effect. Kentucky coal is arriving in sufficient quantities to take care of requirements and some jobbers have limited supplies on hand.

The most interesting development in this district, foreshadowing the prob-

able demand for coal later in the year, is the continued improvement in business. The circle of increasing plant operations is an ever widening one, as evidenced by the May report for employment in Cleveland. This shows an increase of 3.1 per cent during the month against a gain of 2.1 per cent in March. The greatest gain was made in iron and steel and their products, the increase amounting to 7.2 per cent.

Receipts of bituminous coal reflect a lessening demand during the past ten days. Receipts for the week ended May 27 were 992 cars, the lowest for any week during the month.

COLUMBUS

There is a decided slackening in volume of business done. Consumers are waiting until after the new freight rates take effect and until prices are thoroughly stabilized by the efforts of Secretary Hoover.

Public utilities, railroads and iron and steel plants are buying only what is immediately necessary. Despite the fact that prices are about 50c. lower than those mentioned by the Department of Commerce, still this does not attract buyers.

With householders content to wait until the strike is settled, little attention is being given the retail trade. Dealers have pretty fair stocks which they are trying to clean up before freight reductions become effective. Retail prices have increased some in sympathy with the higher prices at the mines. Hocking lump is now selling \$6@6.50 and West Virginia splints, \$7@7.50. Pocahontas lump is \$7.50@7.75.

Lake trade is showing up better, although only a small tonnage is moving. Contracts which have been closed are few as the price question is still up in the air.

DETROIT

Only a limited degree of interest is being manifested in the market. Dullness and lack of buying demand are prominent features of the situation. The reduction of freight rates has developed a new reason for delaying purchases. Buyers are holding off orders now to be in position to take advantage of the lower rate.

Some jobbers direct attention to the fact that the dilatory buyers may find themselves in the position of paying more for their coal after July 1 than the price at which it may now be obtained. With so many buyers coming into the market together there is reason to believe that the law of supply and demand will be found operating in a way to advance the price to an extent that will more than offset the amount saved on lower freight charges.

Lump and egg from West Virginia or Kentucky is quoted \$3.25@3.50; mine run and the finer sizes at about \$3.

NORTHERN PANHANDLE

Strikers have been unable to check production except in a few isolated instances and at other mines there has been a steady growth in production since the inception of the strike, the output in this territory being in excess of 60,000 tons a week. Many mines are producing railroad fuel which is in strong demand, and there is also a heavy movement to the Lakes. Inquiries from northern markets are plentiful.

Cincinnati Gateway

Aloof Attitude of Buyers Causes Shrinkage of Prices

All Sizes but Lump Fall to \$2.50—Speculators Driven to Cover—Hoover Price Level Approved by Coal Men—Lake Market Shows Much Life.

THE shifting winds of trade drove the price of all grades and sizes of coal, with the exception of lump, down to \$2.50 within the past week, wholly through the buyers standing off indifferently and allowing enough coal to accumulate either at the scales or at the mouth of the mines to scare the speculator and others who had gone to the fields to buy, back to their own stamping ground. Within the past week a goodly number of persons who had been noted as being in the fields for the purpose of buying coal returned to their headquarters under the continued state of depression.

Hoover's price conference holds the center of the stage. The speculative element in the trade is fast waning and coal men feel that a \$3.50 maximum price is one that should satisfy all producers. The Lake market is showing decided signs of life.

LOW-VOLATILE FIELDS

NEW RIVER AND THE GULF

Additional New River mines having resumed operations production is now approximately 50 per cent of potential capacity. The last week of May saw many of the larger mines in the region once again operating on a non-union basis, although the resumption was not without violence and threats in some instances. Little other than mine run is being produced. Price declines have occurred during the past 10 days.

Strike losses in the Gulf region have been almost completely obliterated but a shortage of labor is handicapping operators to some extent. Market conditions are not quite so strong as June opens.

POCAHONTAS AND TUG RIVER

Pocahontas mines are producing at the rate of about 70,000 tons a day, which is far above normal. Producers have some heavy contracts to fill but a part of the output is being sold on a spot basis. There are less indications now of a runaway market than was the case a few weeks ago. Although there is a growing demand in Eastern markets, nevertheless the tonnage for the West is heavy.

Production is at the maximum in the Tug River territory, where more than 100,000 tons were produced during the last week of May. Demand is good,

particularly in Western markets, a very heavy tonnage being shipped to steel manufacturers and to byproduct concerns. Some difficulty has been experienced in securing all the cars needed.

HIGH-VOLATILE FIELDS

KANAWHA

More mines have been added to the list of those in operation. The demand is sufficient to readily absorb what tonnage there is produced. Inquiries from Tidewater sources are heavier in volume.

LOGAN AND THACKER

Although prices were a little off in the Logan field during the closing days of May, the demand had not been affected to any perceptible extent by the prospect of some sort of price regulation, and mines had all the orders they could handle. Although the bulk of the output is moving to Western markets, there is also a heavy tonnage being sent to the Lakes. Prices not having advanced as much in this part of the state as in other sections, price recessions were not so marked.

Thacker mines wound up the month with a heavy production, amounting to approximately 180,000 tons a week, much of which was originated in the Williamson field where all mines are now in operation and where the strike is making no inroads on the output. The bulk of the output is being handled through the Cincinnati gateway and through Columbus, with a large tonnage moving to the Lakes. Much tonnage is being taken by railroads.

NORTHEASTERN KENTUCKY

Although further price increases had been anticipated at the rate buyers were invading the field, imminence of some sort of price regulation has served to reduce prices, mine run being \$2.58@\$. Little other than mine run is being produced. The heaviest demand is from buyers in Ohio and Michigan. Railroads are securing a large tonnage and there is also a heavy movement for the Lakes.

CINCINNATI

The talk of a strike of the shopmen and maintenance of way men of the railways failed to make any deep impression here, so far as price was concerned. Monday the market opened around \$2.50 but following Memorial Day there was a little spurt upward, just another that has been starting several times since the last letter was written for this column. Far more interest was displayed in the conference with Herbert Hoover, later on in the week and the possibility of governmental regulation. Here the wholesalers and jobbers are looking for a \$3.50 maximum price as being the one that will hold best in a gentleman's agreement.

The smokeless situation is practically unchanged. Both New River and Pocahontas operators are holding for a set price on egg and lump. Again a good bulk of this trade is being di-

verted to the Inland points because of the slackening interest at Tide.

The retail situation continues a puzzle. About half of the trade are asking \$8 for smokeless lump—and are getting it. The other half have not changed from the \$7.50 basis and both are offering run of mine for \$6.50@6.75, a slight advance. There has been no change in the high volatile mine run prices, but slack, which is quoted at \$5.50 is being sold all the way down to \$4.75, the latter with the stipulation that the buyer pay for or arrange for cartage.

Coke

CONNELLSVILLE

Offerings of Connellsville coke continue very light, involving an amount that would be almost negligible in ordinary times. The Pittsburgh Steel Co., which bought freely recently in order to blow in one of its blast furnaces, is now out of the market and appears to have a fair accumulation. In the past two or three days several inquiries have come from Eastern furnaces and a moderate volume of business has been done in that quarter in odd lots to supplement current supplies of the furnaces involved. The market for furnace coke, which was approximately \$7 a week ago, is now very firm at that figure.

Foundry is now reported to have sold at \$7.50, the first time in this movement that the figure has been reached. Foundries are buying very little. Not a few state that their stocks will last until about Aug. 1.

Strikers are holding out well, there having been but few returning to work thus far. The common guess is that men will begin returning to work in numbers in about a month.

The *Courier* reports production during the week ended May 27 at 45,350 tons by the furnace ovens and 13,780 tons by the merchant ovens, a total of 59,130 tons, an increase of 1,700 tons.

UNIONTOWN

There were no direct representatives of the Connellsville region at the Washington conference which resulted in Mr. Hoover fixing a price of \$3.50 generally as the maximum which will obtain during the present strike. Telephonic conversation with several operators here is understood to have brought no results.

While that situation is working out the market is lower than the Hoover \$3.50 price and until it takes a jump the attitude of Connellsville operators toward the Hoover plan will not become known.

The local market has been \$3.25@ \$3.50 for two weeks with most tonnage going at the former figure.

BUFFALO

Heavy users of coke are as a rule provided with enough local byproduct supply to satisfy all needs. Only when they need some special variety do they go outside for anything. The big local furnaces are pretty active, but iron ore is coming in at a slow rate as yet. Coke quotations remain at \$7 for best 72-hr. Connellsville foundry, \$6 for 48-hr. furnace and \$4.10 for stock, with chestnut for domestic use nominal at about \$4.50, to which add \$3.64 for freight.

News Items From Field and Trade

ALABAMA

The School of Mines, College of Engineering, University of Alabama is offering a short course in coal mining, from June 19 to July 15. The course affords an exceptional opportunity to prepare for the state mine examinations. The university makes no charge for the course.

CONNECTICUT

The Wheeler & Howes Co., Bridgeport, for more than sixty years in the coal business is winding up its affairs. The large wharfage on the Pequonnock River will be disposed of, and the rest of the property will be sold by the trustees. The move to dissolve the corporation comes from a result of business depression and the constantly growing competition.

ILLINOIS

K. F. Towler, of Chicago, treasurer of the Chicago, Wilmington & Franklin Coal Co., has returned from a vacation of steady golfing.

G. J. Rhiacek, assistant sales manager for the Bell & Zoller Coal Co., is enjoying a two-weeks' layoff.

In spite of the fact that the mines in and around Marion in Williamson County have been closed for over eight weeks and that the chief industry of the county with over thirty mines is that of coal mining, it being the second largest producing coal county in the state, the bank deposits have increased more than \$500,000 since March 15. On that date deposits in Marion were \$4,652,000.

Preparations are being made by the American Coke & Chemical Co., to sink several test holes near McLeansboro, White County, for the purpose of locating a site for the shaft of a large mine. Machinery for drilling the holes has been unloaded and operations are to start at once.

B. H. Firth has been named as superintendent for the mine of the Slogo Coal Co., near Marion. Mr. Firth has had a wide experience in mining. He was secretary and general manager of the Hoskins-Cantine Fuel Co., Sioux City, Ia., general superintendent of the coal department of the Standard Oil Co., at Carlinville, Ill., and a member of the Illinois State Executive Board of the United Mine Workers.

The Orchard Coal Co., operating at Marion, has filed notice of increase of capitalization from \$300,000 to \$600,000, with the secretary of state at Springfield. The company has a valuable operation in Williamson County.

J. M. Dillavou, Chicago, president of the Harris-Dillavou-Diamond Co., was in Champaign and other down-state towns recently on business. The Harris-Dillavou-Diamond firm sells for the Southern Gem Coal Co., one of the new operating companies and one which controls a number of large collieries in Franklin, Perry and other counties.

W. H. Leland has been elected vice-president and general manager of the Union Fuel Co., Springfield.

After 15 years of litigation the widow of Ricardo Milani, a miner killed while he was on his way to work, appears to have won \$3,000 from the Illinois Third Vein Coal Co. by a decision of the Appellate Court at Ottawa, sustaining a verdict of last fall. The company may appeal to the Supreme Court. The case has been tried five times during the litigation.

INDIANA

With the idea of acquiring, at some time in the future, mines in the West Virginia and Kentucky coal fields, the Interstate Fuel Co. has been incorporated with a nominal capitalization of \$20,000. The company will deal in Eastern coal until its own mines are ready. The organization has temporary offices in the Merchants National Bank Bldg., Indianapolis. The incorporators are James W. Costin, M. W. Costin and Frank A. Woop.

Governor McCray has announced the appointment of a commission to codify the mining laws of the state and to recommend new legislation relating to the mining industry. The commission as named is as follows: John Hessler, Terre Haute, president of District No. 11, United Mine Workers; William Mitch, Terre Haute, secretary of District No. 11, and John A. Templeton and Henry Adamson, representing the operators; Cairy Littlejohn, chief deputy state mine inspector, and S. J. Wilton, assistant mine inspector, representing the state mining department. The commission is to meet and organize not later than six months before the convening of the 1923 session of the General Assembly and is to submit a report to the governor on or before Jan. 1, next. It is pointed out that the general mining law was enacted in 1905 before the introduction of many of the modern methods of mining coal. Although the law has been amended several times and additional statutes enacted, the present laws are regarded as unsatisfactory.

Elmer Q. Lockyear, judge of the Vanderburg County Probate Court at Evansville, Ind., has granted Frank C. Gore, receiver for the Fricke & Blair Coal Co., permission to open the Possum Ridge Coal Co.'s mines in Warrick County on the Evansville and Boonville traction line. The mine was purchased by the Fricke & Blair Co. before it went into bankruptcy several months ago.

The Coalmont Coal Co., of Sullivan, has filed a final certificate of dissolution.

Louis Schauwecker, in the mercantile business at Clay City, through the United States Trust Co., of Terre Haute, has completed arrangements for the purchase of a lease on 610 acres of land in Clay County from the Brazil Block Coal & Clay Co., at one time the largest coal producer in Indiana. The price was \$15,000.

IOWA

The Pearson Coal Co., Clarinda, has secured a twenty-year lease with right and option of renewal on two hundred and forty acres of coal land adjoining Clarinda. A shaft will be put down and an electric line will be extended to the mine.

KENTUCKY

The coal operations of the Big Sandy near Paintsville, are operating full time, with more coal passing over the Big Sandy division of the C. & O. than at any time at this season of the year in the history of the industry. All companies are working with the exception of the Northeast Coal Co.'s Thealka and Auxier operations; the Consolidation Coal Co., Van Lear, and Ayers & Lang Coal Co., Offutt. Miners at these places walked out on strike April 1 and have been out since, with the exception of the Northeast Coal Company's No. 2 mine. Union miners at this operation resumed work on May 20 and it is thought that all Northeast miners will be back to work early in June.

The East Harlan Coal Co., located in Harlan County at Ages, and belonging to Huntington, Ind., interests, has started up, after having been closed over a year.

John Hoffman, vice-president of the Kentucky Fuel Co., was recently in Bell County and through his efforts was able to get the company's Hignite mine again in operation, after being out nearly two months on account of labor trouble.

The Liggett Coal Mining Co., Hazard; capital, \$60,000 has been formed. Incorporators are H. S. Adkins, Hazard; G. P. Foley, Staub, and W. W. Reeves, Hazard.

A report from Whitesburg, is to the effect that the newly formed Elkhorn Block Coal Co., will develop large holdings in the Shelby Creek section of the headwaters of the Big Sandy, just over the Letcher line.

With a capital of \$30,000, the New Duane Coal Co., Hazard, has been chartered by A. S. Petrey, M. A. Petrey and Maude Petrey to be an operating company.

MASSACHUSETTS

Bernard L. McDonald, Lawrence, is planning the construction of an elevated coal pocket of 1,200-tons capacity.

The Osterman Coal Co., of Wamesit, in the Town of Tewksbury, will construct a 600-ton coal pocket in that place shortly. The pocket will be of the elevated type, and will also have scales, coal bunkers, etc.

MISSOURI

The contract for the Board of Education for St. Louis public schools for approximately 10,000 tons of coal has been awarded the Union Fuel & Ice Co. at \$4.19 $\frac{1}{2}$ delivered, based on the present freight rate and mining scale, with the understanding that any decrease shall be effective on the price. This is 6c. a ton under the price paid last year under the present wage scale and freight rate.

NEW YORK

The gas and electric lighting companies in Greater New York are not short of fuel, according to the reports as of May 12, although stocks have declined since April 30. On that date the Brooklyn Edison Co. had on hand 405 tons of anthracite (613 on April 30) and 79,227 tons of bituminous coal (86,202 on April 30); New York Edison Co., 9,254 tons anthracite (12,497 April 30) and 199,651 tons bituminous (240,119 April 30); Brooklyn Borough Gas Co., 1,706 tons anthracite (1,653 April 30), 2,092 tons bituminous (2,272 April 30); Brooklyn Union Gas Co., 115,273 tons anthracite (120,223 April 30), 1,833 tons bituminous (2,247 April 30); Consolidated Gas Co., 183,128 tons anthracite (190,150 April 30), 175,614 tons bituminous (189,262 April 30); Westchester Lighting Co., 29,417 tons anthracite (30,599 April 30), 7,613 tons bituminous (7,977 April 30).

OHIO

W. N. Puckett, president of the Cabin Creek Consolidated Coal Co., with headquarters at Charleston, was in Cincinnati recently.

There was quite a spread in the prices that were shown when the School Board bids were opened in Cincinnati. One company offered to supply the downtown districts with high-volatile mine run at \$4.68 @ \$4.70, while the next lowest bid was \$5.57. The spread between the prices on Pocahontas was not so great, the low being \$5.33 and the next bidder \$5.85. The School Board, however, was not bargain hunting but decided to lay the bids over for a week before deciding whether they would enter into a contract or not.

Victor White, Western sales manager for the Flat Top Coal Co. suffered a broken rib in an automobile accident which took place near the Indiana state line on Memorial Day. The rest of his family which was in his car escaped unhurt except for a shaking up.

E. C. Mahan of Knoxville, Tenn., who was in Cincinnati recently said that one of the Southern Coal & Coke Co.'s Dixie Gem mines had resumed operations and that the rebuilding of the tippie of another that had been set afire because of labor troubles was progressing nicely. Mr. Mahan was accompanied by J. H. Bowling, J. B. Gatliff and W. A. Ellison of the operating department.

Recent trade visitors to the Cincinnati market were, George Camp of the Coal Creek Coal Co., of Knoxville; A. L. Allais, of Chicago; E. A. Dean, of the Deaggins Coal Co., Huntington; D. C. Campbell, of the D. C. Campbell Coal Co., of Knoxville, and Scott Litten of the Dixie Splint Coal Co., of Clinchfield.

L. E. Wood, president of the Central Pocahontas Coal Co., and the American Coal Cleaning Co., of Welch; H. E. Booth, vice-president in charge of sales for the M. A. Hanna Co., of Cleveland; W. H. Bradford, sales manager for the Fenestress Coal Co., of Nashville; Charles Kline, of the Wauban Coal Co., Chicago, and G. W. Gamble, manager of the Washington Coal Co., of Jackson, Ohio, were among the prominent coal visitors to the Cincinnati market recently.

Julius Ratterman, sales manager of the Blue Ash Coal Co., Cincinnati, was elected by the Cincinnati branch of the Wholesale Coal Association to succeed Fred Legg of the Logan and Kanawha on the national board of directors.

Calvin Holmes who has been director of sales for the Blue Diamond Coal Sales Co., Cincinnati, for the past five years has been succeeded by Fred Gore, manager of the Southern office of the company at Atlanta. Mr. Holmes resigned because of a difference in opinion over policy with the other directors of the corporation. He will continue as a stockholder, however. He has not announced his plans, but will take a rest at his home in Knoxville, Tenn. for a month.

The Greenlee Coal Co., Bellaire, has been chartered with a capital of \$10,000 to mine and sell coal in the Belmont County region. Incorporators are James F. Cook, W. C. McClain, St. Clair Archer, Arthur A. Beckmann and L. L. Cunningham.

A score of coal companies, using power from the Southern Ohio Power Co., The Hocking Power Co., and the Athens Electric Co., have appeared in the Ohio Supreme Court from a decision recently announced by the Ohio Utilities Commission, holding that the power companies were not public utilities and thus did not come under the jurisdiction of the commission. The coal companies, led by the Ohio Mining Co., want rates for electrical current fixed by the commission.

The H. W. Jenkins Coal & Coke Co., Columbus, has been chartered with a capital of \$25,000 to do a general jobbing business. It is simply the incorporation of a wholesale business conducted in the Gasco Bldg., under the name of the H. W. Jenkins Coal Co. Incorporators are H. W. Jenkins, Clara L. Jenkins, J. A. Jenkins, Rachael A. Jenkins and F. B. Collins. H. W. Jenkins is president and manager and F. B. Collins, secretary and treasurer. The company has been made exclusive sales agent for the Chattahoochee Coal Co., at Hatfield, W. Va., on the main line of the Norfolk & Western.

PENNSYLVANIA

The injunction secured by the Pennsylvania Collieries Co. at Indiana against the union organizers was dissolved on June 2, by Judge J. M. Langham, on motion of counsel for the complainant company. The restraining order was issued by Judge Langham on May 1.

The Marion-Westmoreland Collieries Co., of New Florence, will operate the property purchased by its president, Howard B. Payne, from the former Werder Coal Co. The operating company is in need of such additional equipment and supplies for developing the property as a 100 kw. or 150 kw. motor generator set, rails, steel ties, etc. The company will also build 30 miners' houses.

An explosion of dynamite under the boiler house at the Patrick plant of the Nicholson Coal & Coke Co., near Mason-town, occurred recently. A wire was found leading from the scene. Little damage was done. Dynamite was exploded in a similar manner at the same place about two years ago.

Frank E. Weddell, a prominent figure in the Connelville coke trade for many years, returns to the trade and the Producers Coke Co. again becomes an active factor through its re-organization, Mr. Weddell being elected vice-president. Mr. Weddell disposed of his interests in the Whyel corporations last February and since has been inactive. The officers of the Producers company are Charles E. Lenhart, president; F. E. Weddell, vice-president; I. W. LaBarrer, secretary and J. W. Abraham, treasurer. The board of directors consists of G. S. Harrah, T. J. McClernan, C. E. Lenhart, F. E. Weddell, Charles H. Loucks, J. W. Abraham and Charles Hoover. The company will represent a dozen independent coke operations having a capacity of 100,000 tons of coke per month, and connections are also being made with a group of byproduct coal operators and the Producers will also be the selling agency for about 100,000 tons of coal monthly.

The Richmond breaker, one of the oldest breakers in the Lackawanna Valley, located in Dickson City, is being razed by the present owners. The property was at one time owned by the Scranton Coal Co., but was sold recently.

The Common Pleas Court of Allegheny County has decreed that the order of the Workmen's Compensation Board granting an appeal to Minnie Johnson, claimant in a case against the Diamond Coal & Coke Co., and directing a new hearing, be reversed and that the prior decision of the referee is sustained. The prior decision was that the claimant is not entitled to compensation because of the death of Albert Johnson, whom she claimed was her

husband. Two women claimed to be the widow, and the board held that the claimant in this case had not proved her contention.

Surveys of the river coal industry of Pennsylvania, just completed by the bureau of statistics and information of the Pennsylvania Department of Internal Affairs, show that in 1921 a total of 476,400 tons were removed from the rivers and streams of the state in the anthracite district. This coal had a value of \$697,200. In 1920 there were 551,100 tons of coal reclaimed of a value of \$844,700. There were 49 concerns engaged in reclaiming coal from the streams last year and they gave employment to 338 persons. Wages paid during the year totaled \$250,000 and the capital invested in the industry amounted to \$954,600.

The Pennsylvania Bureau of Rehabilitation has come in contact with 2,475 injured persons and has rendered assistance to 902 of these cases. Industrial accidents contributed the largest percentage of cases acted upon by the bureau. More than one-third of the rehabilitation cases came from the mines where 724 persons of this class of accidents were registered with the bureau.

Attorney General George E. Alter has advised Seward E. Button, chief of the State Department of Mines, that it will be lawful and proper for the department, in the exercise of the sound discretion vested in it by law, to authorize the erection of a non-inflammable breaker within a distance of 200 ft. of the opening of a coal mine. Such authorization, the opinion holds, is not in conflict with the provisions of Section 5 of Article 4 of the act of June 2, 1921, which provides that no "breaker or other inflammable structure for the preparation or storage of coal shall be erected nearer than 200 ft. to any such opening."

Judge John A. Berkey spent an entire week recently, hearing the injunction cases in Somerset County against the U. M. W., instituted by the Berwind-White Coal Co., and other operators. Attorney Percy Allen Rose of Johnstown represented the Windber company, while John J. Kinter represented the U. M. W.

The Hillman Coal & Coke Co. is making use of the strike period to complete the change at the Isabella plant at Hillcoke from making its own power to purchased power, dispensing with all the steam equipment.

The Arrow Coal Mining Co. has notified the State Department at Harrisburg of an increase in its capital stock from \$50,000 to \$500,000; S. A. Gilmore, Allegheny County, is president.

TENNESSEE

The Roach Creek Coal Co., of Oneida, will open workings in two seams, the Blue Gem and the Jellico with an average total daily output of 3,000 tons. Work on the new mines will be rapidly pushed to completion. The company will build a modern town at Roach Creek.

VIRGINIA

W. A. Benjamin of Philadelphia, alleged to have been the chief promoter of the American Fuel Co., which operated with headquarters in Staunton during the summer and fall of 1920, has been indicted for grand larceny by the grand jury in Circuit Court at Staunton. This is said to be the forerunner of sweeping indictments of Benjamin's associates, several of whom were Staunton men, by a special grand jury. It is alleged that the \$200,000 worth of capital stock sold by promoters of the company was diverted by Benjamin and his associates for their own purposes. It is further charged that they obtained stock subscriptions on the claim that the company owned the title to valuable coal lands in West Virginia, a claim later found to be false.

WEST VIRGINIA

William McKell, president of the McKell Coal & Coke Co., has resigned as a member of the Capitol Building Commission of West Virginia.

A. T. Watson, purchasing agent of the Consolidation Coal Co., with headquarters at Fairmont has returned from an Eastern business trip.

Tracts aggregating 8,000 acres of coal across the river from Hinton, in the angle formed by the junction of Glade Creek with New River, have been purchased from different owners by the Eastern Coal & Mining Co., a Baltimore corporation, which plans development on a large scale. The purchase price aggregated \$600,000.

Announcement of a semi-official nature was made during the latter part of May that Mines Nos. 3 and 4 of the New River & Pocahontas Coal Co., at Minden, would resume operations on June 1 and that the services of about 300 men would be utilized.

The company's Weirwood plant overlooks Willis Branch and some of those who formerly worked at Weirwood are charged with complicity in attacks on the Willis Branch Coal Co. property.

On May 24 the high-power transmission line tower of the Virginian Power Co., at Elverton, where the mines of the Beury interests operate, was blown over by dynamite and for a time eight coal companies were out of commission because of lack of power. State police and blood hounds taking up the trail, arrested George Haynes, a miner of Gatewood.

The Betty mine of the Stone & Scott Coal Co., at the outset of the ninth week of the strike was being heavily picketed by striking miners from Monongah and Norway, in the Fairmont field. One effect of the picketing in force was to deter many of the men from reporting. The sheriff and prosecuting attorney of Monongalia County made an investigation, the latter reporting that the strikers were not encroaching upon company property. The company applied to the governor during the last week of May for protection, asking that a detachment of state police be assigned to duty at the mine. This request was resisted by the prosecuting attorney who said county officials were capable of handling the situation.

WASHINGTON, D. C.

George H. Barker, vice-president of the Maynard Coal Co., in the southern Ohio field, has been elected to succeed himself in the National Coal Association by the Southern Ohio Coal Exchange and other operator associations in that district. The Eastern Ohio field is represented by S. H. Robbins, of Cleveland, while Michael Gallagher, of Cleveland, is a director at large.

The construction of the Miami and Lake Erie Canal between Toledo and Cincinnati, with a branch from Defiance connecting Lake Michigan, was advocated by Representative Thompson, Ohio, in a speech, in the interest of securing cheaper coal. He said that coal could be transported through the canal from Cincinnati to Toledo for 29c. a ton and that the canal would save from \$4 to \$6 a ton on coal.

The fuel appropriation for the Army for the year beginning July 1 is increased from \$3,000,000 to \$3,500,000 by the Senate appropriations committee in reporting the War Department appropriation bill.

In a decision by Justice Holmes, the Supreme Court has set aside a decision of the Court of Appeals of the District of Columbia in a case brought by the Santa Fe Pacific Railroad, involving Western coal lands. Lands selected by the railroad in place of an original grant were held by the Interior Department to be more valuable as coal lands than the original lands, although both tracts were coal lands. The Interior Department declined to approve the selection of the lands by the railroad, holding that the term "quality" under the law was as to the quality of the coal and not the land. The railroad contended that quality meant kind and not value and that as both the base and lieu lands were coal lands they were equal in quality and the Department's refusal to approve its selections was an exercise of arbitrary discretion. The Court of Appeals of the District upheld the Interior Department in its interpretation as to the value of the lands; the Supreme Court, however, reversed the decision, giving title to the railroad to the second location of lands in question.

In opinions by Justice Holmes the United States Supreme Court he decided against the Morrisdale and Pinehill Coal companies in their cases from the court of claims contending for prices in excess of those fixed by the Fuel Administration during the war. The Morrisdale company had asked for recovery from the government of the difference in the price per ton for coal diverted by the administration and coal previously sold under contract at higher prices. The Pinehill company asked for the difference between the maximum price per ton of coal fixed by the Lever Law and the price it could have received had the government not interfered. The court of claims rejected the claims of the companies on the ground that the Lever Law, fixing prices, did not obligate the government to pay coal interests the difference between the government fixed prices and prices which could have otherwise been obtained.

Traffic News

In a complaint to the I. C. C. the Virginia Coal Operators' Association of Philadelphia allege prejudicial and preferential rates on coal from mines in the Appalachia group in Virginia and Kentucky as compared with rates from Harlan County, Ky.

The I. C. C. has authorized railroads to establish rates on coal from mines in Illinois in Groups 1 and 2 named in the Missouri Pacific R.R. tariff; in Group 3 named in the Illinois Central tariff; and in Group C named in the Chicago & Eastern Illinois tariff, to stations on the Butler County R.R., via Thebes, Ill., St. Louis Southwestern Ry., and Piggott, Ark., the same as rates in effect from and to the same points via Thebes, Ill., and the St. Louis-San Francisco Ry.

In a complaint to the I. C. C. the Peerless White Lime Co., alleges unreasonable rates on coal from mines in Illinois to St. Genevieve and Mosher, Mo.

The Gulf Coal Co., of Tams, W. Va., alleges unreasonable rates and regulations in connection with the transportation of coal from Hot Coal, W. Va., and requests rates on the New River district basis.

The Indiana State Chamber of Commerce, of Indianapolis, in a complaint to the I. C. C. alleges unreasonable rates on bituminous coal from Ohio district No. 8 and Inner Crescent groups to Terre Haute and other points in Indiana.

In the complaint of the Old Ben Coal Corporation the Interstate Commerce Commission decides that the rates on rock or shale dust from West Frankfort, Ill., to Christopher and Sesser, Ill., during Federal control were unreasonable.

In the complaint of the National Retail Coal Merchants' Association an I. C. C. examiner recommends that the rules, regulations and practices of the B. & O. and other railroads covering the transportation of hard and soft coal and coke and rates applicable thereto are not unreasonable or unlawful.

The West Kentucky Coal Bureau in a complaint to the commission alleges unreasonable rates on coal from mines on the L. & N. in western Kentucky to points in the North and Northwest because of the absence of through joint rates. The commission is requested to establish rates which shall not exceed those from mines in southern Illinois by more than 25c. a ton.

The Tuffil Bros. Pig Iron & Coke Co., of St. Louis, in a complaint to the I. C. C. alleges unreasonable rates on coke from Indianapolis to Marshalltown, Ia.

The Chamber of Commerce of Menominee, Mich., has petitioned the United States District Court for a permanent injunction restricting enforcement of the order of the Wisconsin Railroad Commission reducing freight rates on coal shipped from Lake ports in Wisconsin to points within the state. The claim is made that the order discriminates against out-of-state coal men who are forced to pay higher rates on coal from points across the borders of their states. It is also held that the order is in violation of the interstate commerce provision of the federal constitution. The order went into effect May 10.

It is reported from division headquarters of the Southern Railway, at Knoxville, Tenn., that the company has placed contracts for 20 additional locomotives, 5,390 freight cars, 500 auto cars and 250 cabooses, the cars to be of all-steel construction except the cabooses, which will have steel underframe construction.

Recent Patents

Draft Device for Mining Machines. Thomas E. Pray, Chicago, Ill., assignor to the Goodman Mfg. Co., Chicago, Ill., 1,411,932. April 4, 1922. Filed Nov. 20, 1920; serial No. 425,655.

Rotary Drill Cutter. Howard R. Hughes, Houston, Texas, 1,412,003. April 4, 1922. Filed Oct. 28, 1920; serial No. 420,257.

Coal Washer and Separator. William F. Martin, Wormleysburg, Pa., 1,412,291. April 11, 1922. Filed Sept. 12, 1921; serial No. 500,101.

Socket for Miners' Drills. Peter J. Dessele, Weir, Kan., assignor of one-half to Frank Clegg, Weir, Kan., 1,412,676. April 11, 1922. Filed Nov. 9, 1920; serial No. 422,899.

Coal-Loading Apparatus. John H. Miller, MacDunn, W. Va., 1,411,928. April 4, 1922. Filed Nov. 16, 1920; serial No. 424,399.

Mining-Machine Truck. Frank Cartledge, Claremont, N. H., assignor to Sullivan Machinery Co., 1,401,759. Dec. 27, 1921. Filed Oct. 10, 1917; serial No. 195,754.

Coupling for Mine Cars. Joseph E. Duke, Birmingham, Ala., 1,401,890. Dec. 27, 1921. Filed March 29, 1921; serial No. 456,580.

Clamshell Machine. Edwin J. Armstrong, Erie, Pa., assignor to Ball Engine Co., Erie, Pa., 1,401,951. Jan. 3, 1922. Filed Dec. 6, 1916; serial No. 135,330.

Flotation Machine. John T. Shimmmin and Clyde E. Bushnell, Butte, Mont., 1,402,099. Jan. 3, 1922. Filed Jan. 25, 1917; serial No. 144,492.

Apparatus for Coking Coal. Claude M. Garland, Chicago, Ill., 1,402,413. Jan. 3, 1922. Filed Dec. 22, 1917; serial No. 205,245.

Coal Briquet and Process of Manufacturing the Same. Charles M. Machold, Philadelphia, Pa., 1,404,869. Jan. 31, 1922. Filed Jan. 28, 1921; serial No. 440,746.

Surveying Instrument. John P. Shaw, Goedgervonden, Transvaal, South Africa, 1,405,017. Jan. 31, 1922. Filed March 29, 1921; serial No. 456,647.

Drill Sharpener. Wade H. Wineman, Chicago, Ill., assignor to Sullivan Machinery Co., Chicago, Ill., 1,405,084. Jan. 31, 1922. Filed May 6, 1919; serial No. 295,061.

Operating Mechanism for Mine-Shaft Doors. Harry F. Kohler, Dunlo, Pa., 1,403,420. Jan. 10, 1922. Filed Apr. 26, 1921; serial No. 464,677.

Mining Machine. Albert Ball, Claremont, N. H., assignor to the Jeffrey Mfg. Co., Columbus, Ohio, 1,403,829. Jan. 17, 1922. Filed March 12, 1910; serial No. 548,856.

Running Gear for Mine Cars. Robert D. Scott and John G. Cadwell, Roslyn, Wash., 1,403,872. Jan. 17, 1922. Filed Nov. 19, 1921; serial No. 516,348.

Association Activities

Smokeless Coal Operators' Association of West Virginia

In response to a call issued by President E. E. White, a meeting of that association was held in Washington, D. C., on May 30. Although no announcement of the purpose of the meeting was made, it is believed that consideration was given informally to the recent suggestion of Secretary Hoover as to prices. Among those in attendance at the meeting in Washington were the following: J. C. Sullivan, W. P. Tams, Prince E. Lilly, John Laing, Alex. Laing, F. M. Lee, C. H. Mead, P. M. Snyder, D. H. Frazier, W. B. Beale, A. F. Leckie, W. H. Ruby, J. B. Clifton, Justus Collins, Edward E. White, C. R. Stahl, Fred G. Wood, Richard Hewitt, T. O. Deaumer, J. C. Hindsley, J. C. Pack, P. C. Lynch, C. L. Goodwin, Harvey H. Morris, G. W. Craft, L. R. Taylor, E. C. Minter, W. A. Phillips, J. E. Jones, Carl Scholz, A. Z. Litz, W. Gaston Caperton, G. H. Caperton, Enoch Ellison, A. J. King and George Wolfe.

Trade Literature

The Esterline-Angus Co., Indianapolis, Ind., has issued a four-page folder, Bulletin 322, descriptive of its meters, transformers and recorders.

Caterpillars for Railroad-Type Shovels. The Bucyrus Co., South Milwaukee, Wis. A short announcement that the company is prepared to equip all sizes of railroad-type shovels with caterpillar traction and describing the principle advantages of this installation.

Scovell, Wellington & Co., accountants and engineers, with headquarters at Boston, have compiled a special list of "Selected Professional and Business Books." The books are grouped under the leads: General Accounting, Auditing, Banking, Municipalities, Other Applied Accounting, Cost Accounting, Industrial Engineering, Employers & Employees, Depreciation and Valuation, Commercial Law, Economics, General Business, Advertising and Selling, and Handbooks.

Forty Years of Progress. An announcement by the Heine Boiler Co., telling of its change of name and describing some of its new developments in boiler design. Illustrated.

Portable Electric Drills. The Black & Decker Mfg. Co., Baltimore, Md. Pp. 18; 3½ x 6 in.; illustrated. Describes not only portable electric drills but also post and bench drill stands, portable electric grinder, safety cleaning machine and electric valve grinder.

Whitney Free Floating Coupling. Kay Mfg. Co., Norwalk, Conn. Pp. 8; 6 x 9 in.; illustrated. Describes types of couplings, with insert of price-list.

Stoeber Pipe Machines. Treadwell Engineering Co., Easton, Pa. Pp. 16; 8½ x 11 in.; illustrated. The different sizes of the machine are described, together with their component parts.—Advertiser.

Lopulco Pulverized Fuel System for Locomotives. Combustion Engineering Corporation, New York City. Pp. 30; 6 x 9 in.; illustrated. Among other interesting facts regarding locomotives equipped with the Lopulco system, are tests on different railroads where the locomotives have been equipped with this system.—Advertiser.

Obituary

Walter Scott Bogle, 70, pioneer Chicago coal merchant and one of the principal Indiana coal operators, died recently when he was stricken with apoplexy as he waited in his home at Chicago for his automobile to take him to his office. Mr. Bogle spent 55 years in the coal business, first employed by his father in a Chicago retail yard, then as his father's partner in D. Bogle & Son, later as an owner in King & Bogle, as the Chicago representative of the Delaware & Hudson Canal Co., as a factor in the Crescent Coal & Mining Co., and finally as the principal member of W. S. Bogle & Co. of Chicago.

Asa Lyman Hoyt, a local retail coal dealer and lumberman, age forty-five years, died recently after a lingering illness. Mr. Hoyt had been engaged in the coal business in Birmingham for a long while and had a wide acquaintance.

Samuel T. Oldham, superintendent of the Ebensburg Coal Co., died recently in a Colver, Pa., hospital. Death was due to pneumonia. Mr. Oldham first located at Osceola Mills, Pa. He has been in the coal mining business for 25 years. He became superintendent of the Ebensburg company in 1916.

Samuel M. Holtzman, of Ft. Wayne, vice-president of the Alaska Coal Co. died recently in a Ft. Wayne hospital as a result of injuries received a few days previous when run down by an automobile. He was 56 years old and had been engaged in business many years.

Coming Meetings

Colorado and New Mexico Coal Operators' Association. Annual meeting June 21 at Denver, Col. Secretary, F. O. Sandstrom, Boston Building, Denver, Col.

American Society for Testing Materials will hold its twenty-fifth annual meeting June 26 to July 1, 1922, at Atlantic City, N. J., with headquarters at the Chalfonte-Haddon Hall Hotel. Assistant treasurer, J. K. Rittenhouse, Engineers' Club Bldg., Philadelphia, Pa.

The twenty-seventh annual convention of the **Illinois and Wisconsin Retail Coal Dealers' Association** will be held at the Hotel Highland, Delavan Lake, Delavan, Wis., June 13, 14, 15. Secretary I. L. Runyan, Chicago, Ill.

American Institute of Chemical Engineers will hold its summer meeting at Niagara Falls, Can., June 19-22, with headquarters at the Clifton Hotel. Secretary, Dr. J. C. Olsen, Polytechnic Institute, Brooklyn, N. Y.

Southwestern Interstate Coal Operators Association will meet June 13 at 519 Keith & Perry Bldg., Kansas City, Mo. Secretary, W. L. A. Johnson, Kansas City, Mo.

Illinois Mining Institute is holding its summer meeting June 8, 9 and 10 on the Mississippi River, the boat leaving St. Louis, Mo., on June 8. Secretary, Martin Bolt, Springfield, Ill.

Mine Inspectors' Institute of the United States of America will hold its annual meeting July 11, 12 and 13 at Chicago, Ill. Secretary, J. W. Paul, 4800 Forbes St., Pittsburgh, Pa. Announcement regarding headquarters will be made later.